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ABSTRACT

The curriculum guide for commercial foods instruction is designed to aid the teacher in communicating the importance of menu cycles in commercial food production. It also provides information about the necessary steps in getting food from the raw form to the finished product, and then to the consumer. In addition to providing information on how to design and use menu cycles, the text also discusses the selection, handling, storage, and preparation of fruits and vegetables, meats, poultry, eggs, seafood, and rice and pasta. Units are included on cost control and the role of a balanced diet in the menu cycle. A 60-page section provides recipes for large quantities and a 15-page section of unit tests concludes the document. (NJ)

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FOREWORD

Food is one of man's basic needs. Just as there are basic needs of man to keep him alive, there are basic tools of the trade necessary to keep any field of business healthy and profitable.

One tool necessary to provide success in the field of food operations is the use of menu cycles. Menu cycles come in all sizes, shapes, and forms and can be conveniently tailored to your specifications.

The misuse or total lack of the use of menu cycles is one of the reasons so many food operations have been doomed to failure before they even begin. Those people and companies that succeed have the knowledge and ability to use menu cycles, along with all the other tools of the trade, to provide the food and service that will keep people coming back again and again.

This text provides the information needed to properly design and use menu cycles as a tool of the trade.

Introduction

For the teacher, this text is designed to help complement and coordinate the many steps necessary in teaching Commercial Foods, and to some extent, Home Economics.

For the student, this text is written to help you understand the importance of menu cycles in commercial food production, as well as other elements involved in a successful food operation. It will give you an idea of the necessary steps in getting food from the raw form to the finished product, and then to the consumer.

You will notice that some words in the text are printed in bold type. These are the vocabulary words which are listed and defined at the end of each unit. Each unit also contains a progress test to help you review what you have learned.

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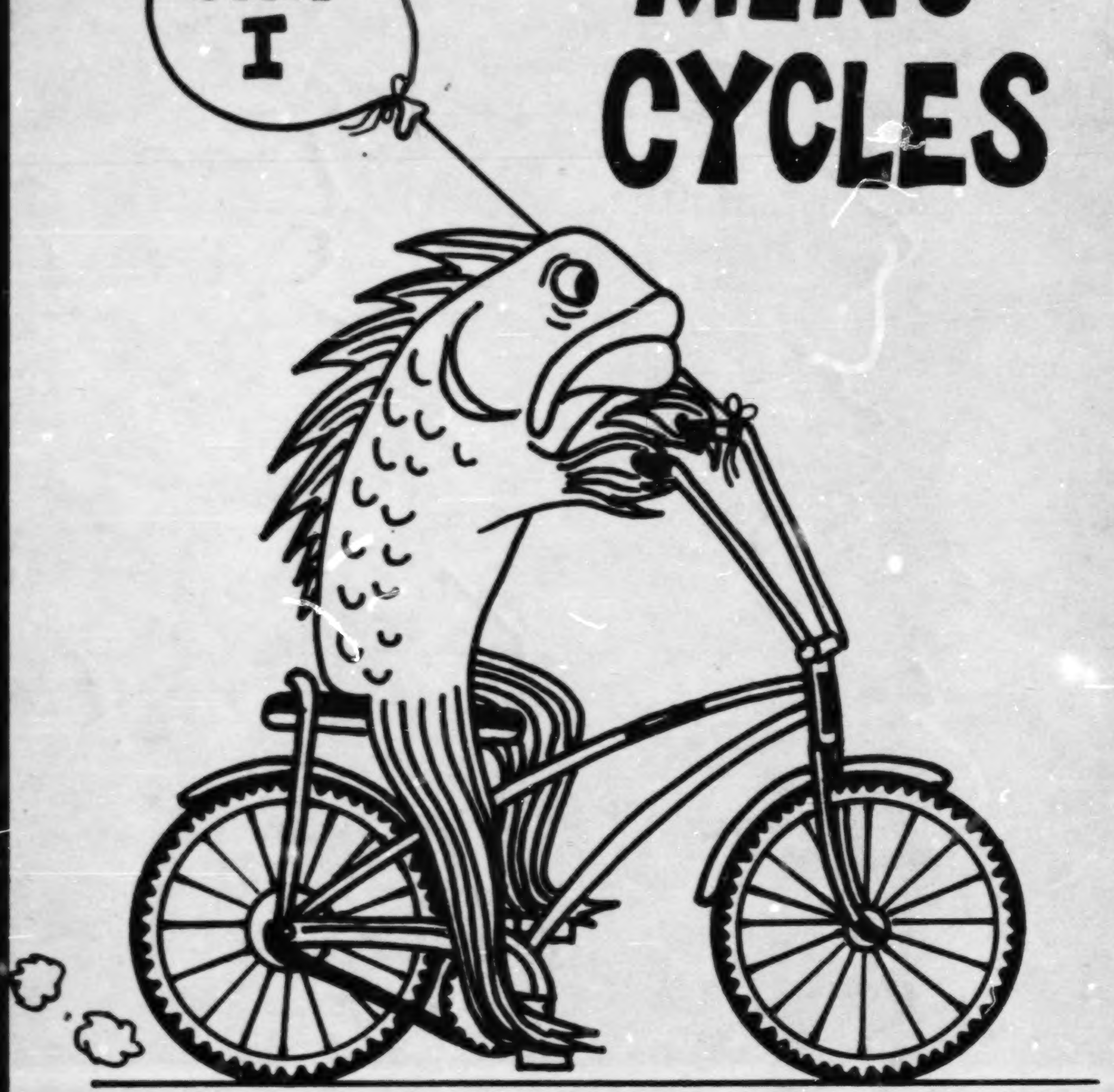


UNIT I – THE MENU CYCLE

Student serving the faculty at the Gloucester Township Campus

What is a menu cycle?

First we should be sure that we understand what the word "cycle" means. Let's think of some cycles we already know. The tricycle, probably the first type of bike or cycle we rode when we were very young, has three wheels. The wheels may be different in size but they all have one thing in common. They all begin and end at the same place on the circle formed by the wheel.

A bicycle is similar, but it has only two wheels and is a little harder to learn to balance and ride. The unicycle, which is the most difficult cycle to learn to use, has only one wheel and is generally used only by people who have had special training.

Just as we use different types of cycles for transportation, we use different types of menu cycles to feed people. They all have a beginning and an end at the same place on the circle (cycle). Much like the cycles we use to take us from place to place, the menu cycle takes us from one meal to another. It can be from breakfast to lunch to dinner for one day, one week, or even one month; for a season (spring, summer, fall, or winter); or for a year.

Types of menu cycles

A menu cycle can be as simple as taking us through one day of meals – breakfast, lunch, and dinner. If you were to use this type of menu cycle for planning an overnight camping trip, you might decide on something like this:

Breakfast

Canned fruit juice, packaged pre-mixed pancake batter, pancake syrup, and a beverage such as tea or instant coffee.

Lunch

Canned fruit juice, peanut butter and jelly sandwiches, and canned prepared pudding.

Dinner

Canned spaghetti and meat sauce, canned brown bread, tea or instant coffee, and canned fruit.

It doesn't matter which meal you begin with, so planning a menu cycle like the one for the camping trip is fairly simple.

When we travel from meal to meal, we might decide to eat the same food all the time – for example, hamburgers, french fries and chocolate milk shakes. This may sound cool at first, but how long do you think you would enjoy this for breakfast, lunch, and dinner, day after day? You would become tired of the same things meal after meal, day after day, sooner or later.

As a trip on a bicycle can take us to see many different places and many different things, a ride on a menu cycle can give us many different foods and pleasant experiences while we provide our bodies and minds with the good diet they need to help us to enjoy our daily lives.

Here are some examples of different types of menu cycles and how they are constructed to suit our daily needs.

Daily Menu Cycle Plan

The simplest form of a menu cycle plan would be a one-day, three-meal plan. It would offer the same things each day but with some variety. For example:

Breakfast

Eggs, pork products, bread and/or cereals and beverages.

Lunch

Beef products, fresh green vegetables, bread and beverages.

Dinner

Poultry products, fresh cooked vegetables, fresh fruit and beverages.

This menu is very general in nature, but it can be varied by the following methods:

Breakfast allows us eggs every day. They could be soft-boiled on Monday, scrambled on Tuesday, fried on Wednesday, poached on Thursday, and an omelet on Friday.

The pork products for breakfast could be bacon on Monday, ham on Tuesday, Taylor's pork roll on Wednesday, Canadian bacon on Thursday, and scrapple on Friday.

The bread and/or cereals could be toast, rolls, or muffins. The cereals could be hot or cold, and there are many different cereals to choose from.

Beverages could include fruit juices, either fresh, frozen or canned, and milk or tea, etc. We can now see how the breakfast menu might be varied with just a few products.

Let's take a look at lunch. Beef products could include hamburgers on Monday, hot roast beef on Tuesday, meat loaf on Wednesday, cold roast beef on Thursday, and chopped sirloin on Friday.

Fresh green vegetables would give us such items as a tossed-greens salad, lettuce wedges, cole slaw, celery sticks, hearts of lettuce, and green garden vegetable salad.

Bread can be white, rye, whole wheat or any type of roll: snowflake, soft roll, hard roll or butter-flake roll.

Beverages could include fruit juices, milk or chocolate milk, coffee, or tea.

Dinner may seem to be limited by using only poultry as the entree, but there are many possibilities. For example, we could have country fried chicken on Monday. For Tuesday how about some turkey with savory dressing. Wednesday would be a good day for some Rock Cornish hen, a flavorful and tender treat in almost anyone's book.

Now we have some leftovers, so let's use them as turkey a la king on Thursday, and how about some chicken cacciatori for Friday? What did you say? You never heard of cacciatori, never saw it or smelled it or tasted it? Close your eyes and think of the delicious aroma of spaghetti sauce cooking on the stove. Chicken cacciatori is chicken in a tomato sauce very much like spaghetti sauce. If you like spaghetti or pizza, you'll love chicken cacciatori.

Now that we have planned the main course, let's consider the vegetables. Fresh peas and shoestring french fried potatoes would taste good with fried chicken on Monday. On Tuesday we could choose creamy whipped potatoes and mixed lima beans and corn. Something a little different for Wednesday with our Rock Cornish hen, like baby sweet potatoes and corn on the cob. Thursday's main course, turkey a la king, has vegetables right in the sauce, so we may choose a fresh salad with lettuce, carrots, celery and tomatoes, tossed with your favorite salad dressing. To help us enjoy our chicken cacciatori on Friday, how about spaghetti instead of potatoes, and some fresh french-style green beans.

Fresh fruits are plentiful and can be used with imagination. For example, have you ever tried fresh freestone peach halves with fresh or frozen raspberries? They go very well with southern fried chicken. Cranberries are traditional with turkey and are most delicious when combined with oranges to make cranberry-orange relish. This should be served with the main course.

A fruit compote (a combination of stewed fruits) might finish the rock-cornish-hen meal with a flair – the crowning touch to a meal fit for a king.

An old-fashioned baked apple with cinnamon hearts for dessert would complement the main course of turkey a la king that we listed for Thursday.

Something tasty but light should be served after the flavorful chicken cacciatori dinner, like fruited gelatin with a touch of whipped cream.

Weekly Menu Cycle

The next type of menu cycle would be a weekly cycle. This offers a variety of foods for each meal for one week and then keeps repeating the same basic food plan with variations. Compared to the daily menu cycle, you can readily see the greater choice of foods available. For example:

Breakfast

Monday
Eggs, meat, bread and/or cereals, and beverages.

Tuesday
Pancakes, pork, fruit and/or fruit juices, and beverages.

Wednesday
Cereal (preferably one high in protein), fruit and/or fruit juice, and beverage.

Thursday
Eggs, meat, toast and/or cereal, and beverage.

Friday
Waffles, meat, fruit and/or fruit juices, and beverage.

Lunch

Monday
Juice, meat, salad or vegetable, beverage, and dessert.

Tuesday
Salad, soup, sandwich, beverage, and dessert.

Wednesday
Soup, meat, vegetables, beverage, and dessert.

Thursday
Juice, salad platter, beverage, and dessert.

Friday
Juice, fish or egg variation, vegetables, beverage and dessert.

Dinner

Monday
Beef variation, vegetables, fruit or salad, dessert, and beverage.

Tuesday
Poultry variation, vegetables, fruit or salad, dessert, and beverage.

Wednesday
Lamb or veal variation, vegetables, fruit or salad, dessert, and beverage.

Thursday
Pork variation, vegetables, fruit or salad, dessert, and beverage.

Friday
Seafood or pasta variation, vegetables, fruit or salad, dessert, and beverage.

You may note the weekly menu allows for quite a variety of foods: you have a different kind of meat each day, and this meat can be prepared in different ways on different days.

Why use a menu cycle?

To prevent ourselves from becoming bored with the same type of foods, meal after meal and day after day, it is important to set up a menu that will provide us with a variety of foods. We also must make sure that our bodies receive the essential nutrients necessary for good health.

There are surely times when you feel that there is not a very great variety of foods to eat. Take, for example, spinach – not that we're knocking spinach, but aren't there times when you feel that it's the only thing your mom knows how to cook? Trouble is that many times we get stuck in the rut of preparing the same foods over and over again – potatoes, peas, broccoli, cauliflower, corn, green beans, and, oh yeah, spinach!

Hold on a minute! How many times have you said something like, "I don't like that stuff. I never ate it before, but I know I won't like it." Did you ever stop to think that *you* may be the one responsible for limiting the variety of foods that your mother serves? For example, did you know that there are over 200 different ways to prepare white potatoes? Now surely you're bound to find at least a couple of ways of preparing potatoes that you like.

Besides eating at home, we must take into consideration the meals we eat away from home. If we are going to be responsible for feeding people other than ourselves, we should see that they are provided with a healthful variety of foods.

Even if you have not had much experience at eating away from home, you may have seen newspaper advertisements or heard TV and radio commercials for different types of restaurants. You may have noticed that the larger restaurants list a menu offering quite a variety of foods. Or you may be aware that there are many different types of "specialty restaurants" that offer only a limited choice of foods, such as the hamburger stand or the seafood restaurant. Even the refreshment stand at the ball park can be considered a specialty-type restaurant.

There are still other eating places away from home that we need to take into consideration. These are feeding establishments that cater to a "captive audience." A captive audience is made up of people who have little or no choice of where to eat, such as in a hospital or a school or a company with no other feeding facilities nearby.

Let's take a look at a hospital feeding program first and see what role it plays in feeding people to keep them alive and to return them to good health. Hospitals must serve a variety of menus as well as a variety of food, for some patients are too sick to eat anything solid and therefore need a liquid diet that will provide the essential nutrients to nurse them back to good health. Other patients can eat only soft foods, and still others have different special needs which must be taken into consideration.

Just as you would get tired of eating the same foods meal after meal and day after day, so would anyone else, especially someone who is not feeling very well to start with. Even though the kinds of foods that a patient can eat may be limited by his illness, it is still possible to provide him with some variety in his food. When you are ill, the food you eat can play an important role in your recovery.

Schools generally have a captive audience, too, except for those students who bring their lunches. School lunches differ from those served to patients in hospitals in that they must include a wider choice of foods. Students must be given the opportunity of selecting a nutritionally well-balanced meal that is not monotonous.

The use of a menu cycle provides all feeding establishments, except the specialty house, with the continuing opportunity to provide a nutritionally sound variety of foods and still be sure not to have the same items for lunch every day, or every Monday, or at any given meal on any given day.

How to plan a menu cycle

The menu is the foundation on which the basic structure of any food service operation is built. Upon it depends the type of equipment needed, the employees needed, the methods of buying, and the storage requirements. Even the design and decor of the place may depend on the food offered on the menu.

Menus must be planned in advance for the various meals to be served. It is here that the use of menu cycles as a tool of the trade plays its most important role. In any food-service operation where customers are served day after day, it is not an easy task to achieve variety with the foods that are available and yet keep within the limits of your cost of operation.

The items involved in planning the menu are:

1. The needs and desires of the customers
2. Costs and profit
3. The foods available
4. The amount and kinds of equipment available
5. The variety and appeal of the foods offered
6. Nutritional factors
7. The availability of labor

1. Needs and desires of customers

The first thing to consider in menu planning is the customer and what he likes to eat. Where all three of the customer's meals are served, as in hospitals, some schools, and other institutions, you must take into consideration what he needs from a nutritional standpoint, as well as offering him plenty of variety. If, on the other hand, your customer can choose what he wants from your menu, or can eat at some other establishment if he wishes, then you must be aware of his desires so that he will be satisfied and will come back to your food operation as often as possible.

Studies have indicated what types of meals are preferred by different types of people. For example, businessmen generally prefer some form of beef, in large servings, with vegetables and rolls and butter. If you should specialize in serving businessmen, then you would have to plan a menu cycle that would give them these items in as great a variety as possible.

Businesswomen or women shoppers are more likely to be concerned about their weight and appearance. They tend to prefer light sandwiches, soup and sandwich combinations, or salads.

Traveling or visiting people prefer to eat in local restaurants that serve foods common to the area that they are visiting. This allows them the opportunity to try many different kinds of food as they travel.

Families like to eat in food establishments that offer a variety great enough to satisfy the entire family and generally prefer menus that offer the entire meal for a set price. The price usually includes a soup or appetizer, salad, entree, vegetables, beverage, and dessert. Families enjoy such things as relish dishes served to the table, salad bars, and buffets. The acceptance of children is important in attracting families as regular customers. Many establishments feature special children's menus, and find the families coming again and again as a result.

Teenagers make up the largest number of potential customers. The tremendous build-up and expansion of roadside drive-in restaurants serving specialties such as hamburgers, french fries, milk shakes, ice cream or custard, or pizza is mostly due to the teenage or "now" generation.

Older or more mature people often prefer self-service or cafeteria-style service. They tend to be more cost-conscious than other groups of people because they have to live on smaller than average incomes.

In using your menu cycle, you may find it helpful to know that different kinds of food are preferred in different parts of the country. In the South, for example, many people like hominy grits. This item was so popular with a member of the crew of the Apollo 16 that he had the space lab prepare buttered hominy grits to take along on the flight to the moon! Philadelphia is known for "scrapple," a pork product generally served at breakfast.

The armed services once released a 10-year survey listing the 10 most popular foods and the 10 least popular foods as indicated by servicemen. Here are the results of that survey.

Most Popular	**Least Popular**
Fresh milk	Mashed turnips
Hot rolls	Broccoli
Hot biscuits	Baked squash
Strawberry shortcake	Fried parsnips
Grilled steak	Creamed asparagus
Ice cream	Cabbage baked with cheese
Ice cream sundaes	Asparagus with hollandaise sauce
Fried chicken	Iced coffee
French fried potatoes	Cauliflower with cheese sauce
Roast turkey	Candied parsnips

Please note that the most popular items are items that you are most likely familiar with, while the least popular items may include some foods that you have never even heard of.

Many Americans want to lose weight. "Weight Watchers" clubs and organizations have become very popular as people have become more calorie-conscious. This has had its effect on the menus of many food operations. It is very common to find menu items just for the calorie-conscious people in this society.

2. Costs and profits

To use a menu cycle profitably, you must consider the cost of the food items being used, both in the raw state and in the prepared state. For example, you may pay only $7.50 for a 100-pound bag of raw potatoes, but after you peel them and prepare them you may end up with only 75 pounds of prepared potatoes. This means that the potatoes now cost you about 10 cents per pound rather than the original cost of 7½ cents per pound. This doesn't include other preparation costs, such as the cost of labor to clean and cook the potatoes, or the cost of materials other than the potatoes (butter, milk, salt, etc.).

Another factor affecting cost is the availability of foods that are considered seasonal – that is, they are less expensive when in season, even though they may be purchased all year long. The popularity of some of these foods, such as beef, makes it desirable to offer them on the menu all year long, even though they are more costly during certain periods of the year. If you take these items off the menu, you may lose business; on the other hand, if you raise the price to cover the additional cost, you may also lose money by losing customers. You must take into consideration that you will make more money at those times when your menu items cost you less, and this will help to offset any losses when the menu items are more expensive.

Another type of menu costing that should be considered is the price of the average check (total sales divided by the number of customers). For example, if each customer buys just a cup of coffee, the check average may be only 25 cents. If, however, he buys coffee and cake, pie, or doughnuts, the average check would increase by the price of the item sold. Let's say you are averaging 1,000 meals per day, and the check average is raised by only 5 cents per day; it will add $50 to the daily sales figure or as much as $15,600 per year, based on an operation that is open six days a week.

3. The foods available

The menu planner must know what foods are available. The person responsible for purchasing must keep the menu planner advised of market conditions, such as shortages of certain foods or a plentiful supply of a food item that would be a good buy.

Another factor to be considered is the food on hand, such as perishables, which must be used within a certain period of time. The chef or manager should make up a list of such items early each morning.

Although the aim of a well-constructed menu cycle is to limit the amount of leftovers through proper planning and preparation, there are sometimes leftovers to be used. This is another consideration in the preparation of a menu.

4. The amount and kinds of equipment available

If certain equipment is not available, this must be taken into consideration when planning the menu. For example, if a food operation had no steam pressure cooker, it would be difficult to prepare a menu that included several items that had to be cooked with a moist-heat method.

Oven space is another important factor. Careful planning, such as baking cakes or pies early in the morning, can make the most of the oven space available. However, too many foods requiring oven preparation can make it difficult or even impossible to get everything done properly and on time if oven capacity is limited. If an operation can afford to purchase specialized equipment, it would be helpful to use a microwave oven. This cuts cooking time down tremendously and can be used to reheat many foods in seconds.

The menu planner must be familiar with the available equipment and its limitations. It is also important that the chef and manager work very closely to see that the menu demands do not exceed kitchen capacity.

5. The variety and appeal of the foods offered

A restaurant serving the same customers everyday, or an institutional food service that has a captive audience, must provide variety. In any food service, no matter how limited the menu cycle or how many guests are served, the food must be presented in the most appealing manner possible. This may create some problems for the menu planner, but it also offers opportunities for creativity and ingenuity. After all, the kinds of food that make up the greater part of the average menu are relatively few. For example, meats, which make up about 40 percent of the food served in public, are generally beef, pork, veal, lamb, seafood, and poultry. There are, of course, many different ways to prepare these items, and a menu cycle allows you to use as many different ways as possible to provide variety.

Fresh Fruit Salad Supreme

Variety in texture, color, shape and size should be considered.

Variety and appeal are also achieved through color, flavor, aroma, texture, shape and temperature. Color appeals to the eye, and if the food looks good you will be more likely to enjoy eating it. Whipped potatoes placed on a plate with some shape other than just a glob will look more appealing. Additional appeal is found in the contrasting but complementary textures of firm slices of tomatoes and crisp cool lettuce with creamy salad dressing. There are, of course, many more ways to use texture as an appealing factor in the presentation of food.

Flavor offers many opportunities for achieving variety. Flavor is often confused with taste. The taste buds located on the tongue and in the mouth can actually detect only four tastes: sweet, sour, salty, and bitter. It is the combination of these four, in endless ways, that gives us the many different tastes of foods. Flavor includes all the sensations that affect the sense of taste, such as the coolness of mint or the pungent smell of spices, as well as the taste itself.

Temperature contrasts can be very appealing – for example, a chilled fruit cocktail topped with sherbet before the service of a hot entree, or a crisp, well-chilled salad platter and a cool, thirst-quenching beverage on a hot and humid day.

6. Nutritional factors

Although a menu planner for a food operation cannot make a customer choose a well-balanced, nutritional meal, he still has the responsibility of making a balanced meal available.

In most schools, hospitals, and other institutions, it is essential that a properly balanced diet be offered and served to the people that must eat there by necessity and not by choice. This is most important to people who are sick and need special diets to help them return to good health. Even people on restricted diets can have some variety offered if a menu planner uses the menu cycle to that end.

A menu cycle, to be nutritionally balanced, must offer the following nutrients in as many ways as possible.

Protein

Found in milk and milk products, eggs, fish, meat, and, in smaller amounts, wheat, corn, rice, and nuts.

Proteins maintain the growth and repair of body cells. They also supply energy to the body if there is a lack of fats and carbohydrates in the body.

Carbohydrates (sugars and starches)

Found in rice, potatoes, cereals and flour products, and legumes (peas, beans, etc.). Natural sugars and starches found in fruits and some vegetables, and manufactured sugars used for sweetness in preparing foods, also provide carbohydrates.

Carbohydrates supply heat and energy to the body.

Fats and oils

Found in vegetable oils such as corn, cottonseed, soybean, peanut, and olive. Also in butter, margarine, milk, cheese, eggs, meat, fish, and nuts.

Fats and oils are the most concentrated source of energy the diet can provide. They are stored in many areas of the body. Body fat serves as insulation against cold, protection against bumps and bruises, and support for some of the body organs.

Minerals

There are 13 different minerals required by the body which must be derived from the diet. There are other minerals found in the body, but scientists have not yet been able to determine their function in the body.

Compared with other classes of foods, minerals are needed in relatively small amounts. The three minerals most necessary for good body health are calcium, iron, and iodine. Calcium is found in quantity in milk and milk products; lesser amounts occur in shellfish, egg yolks, and dark green vegetables. Iron is supplied by such foods as liver, heart, kidney, lean meats, shellfish, egg yolks, dried fruits, and nuts. Iodine is found in seafoods and in vegetables grown in iodine-rich soil. In areas where it is lacking in food, it is generally supplied through the use of iodized salt.

Minerals, along with water and vitamins, are body regulators. They help keep the blood cells, muscles, nerves, and glands working properly.

Vitamins

Vitamins are found in a great variety of foods, but in very small amounts, so our diets must contain enough variety to fulfill our needs for the different ones. Vitamins are needed for a great many different bodily functions. They work with the other nutrients to help them do their jobs in keeping our bodies healthy.

7. The availability of labor

Employees are needed to prepare and serve the food and to take care of clean-up chores. If you cannot provide the food and service your customers want because of a shortage of labor, you will probably lose your customers to someone who can provide the service.

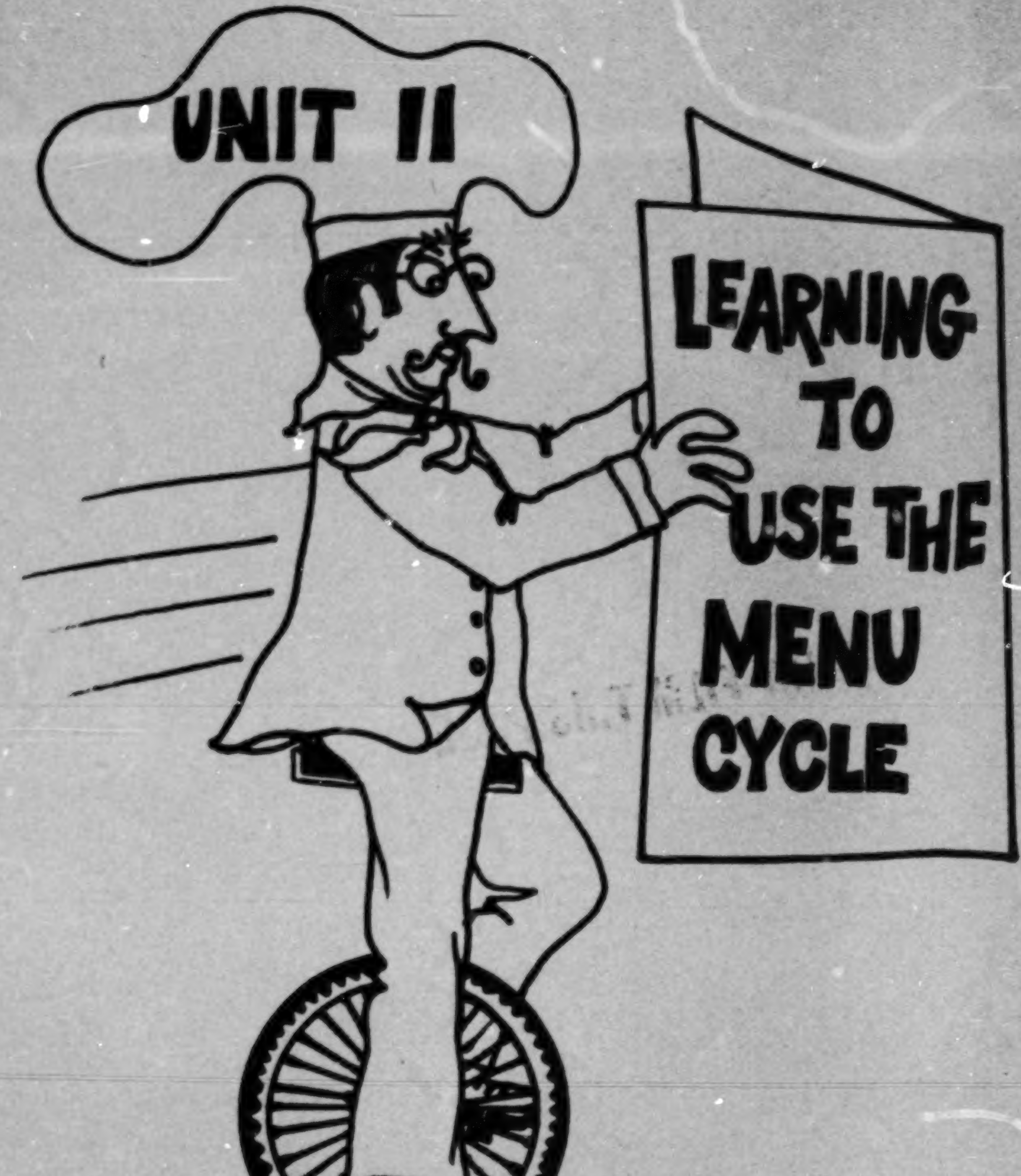
It would not make sense to plan a menu cycle that you could not prepare because of a lack of skilled labor. So you must be sure to take this into consideration in your overall menu planning and menu cycle.

Summary

The menu cycle is a predetermined way of taking you from one meal to the next for as many meals as you desire. Preparation of this cycle must take into consideration a variety of factors to provide what your customers want and need. They must be offered quality, quantity, nutrition, and service at a price they are willing to pay. Using the menu cycle properly will help to achieve these goals.

Vocabulary

cacciatori	– an Italian dish made from tomato sauce and generally served with chicken.
essential	– important in the highest degree; indispensable.
ingenuity	– skill in devising; cleverness
monotonous	– without change or variety
nutrient	– an ingredient of food that provides something that the body needs
predetermined	– settled in advance
pungent	– sharp in taste or smell


UNIT II
LEARNING TO USE THE MENU CYCLE

UNIT II – LEARNING TO USE THE MENU CYCLE

The Oriental Way Without Chopsticks
Pork Chow Mein, Rice, Fried egg noodles, Honeydew melon

Suggested menus for cycling

The following set of menus is designed for a single meal per day, based on a five-day week, for a period of eight weeks. It is designed to help you understand how a menu cycle can be used to its full potential over a period of time.

We have limited the number of items offered so that you will better be able to see how variety may be offered and still fulfill all the factors and areas discussed in Unit I.

You must take into consideration that there are many additions you may make to greatly expand these menus. It is this possibility that makes the use of the menu cycle as a tool of the trade a challenge to see what you can do on your own.

These menus may best be used in an institutional feeding situation where you would be feeding a captive audience. They are flexible enough to allow you to change them by using a variation of the main entree or any of the accompanying vegetables or salads. Certain courses are purposely left out to allow you to try your own hand at completing the meal.

MENU CYCLE FOR LEARNING

Week #1

Grilled Frankfurter on Toasted Roll
New England Style Oven-Baked Beans
Cole Slaw (or variation)

Baked, Freshly Ground, Meatloaf – Tomato Sauce or Pan Gravy
Herb-Flavored Steamed Rice
Buttered Brussels Sprouts

Fluffy Scrambled Eggs with Panbroiled Fresh Link Sausage
Crispy French Fried Potatoes
Buttered Toast – Grape Jelly

Roast Loin of Pork – Robert Sauce
Baked Sliced Apples
Green Peas and Carrots in Butter Sauce

Deep-Fried Flounder – Tartar Sauce
Parsley Buttered Potatoes
Country-Style Stewed Tomatoes

Sauteed Breaded Veal Cutlet or Veal Parmesan (Parmegiana)

Pasta (any type)

Braised Zucchini Squash

Shepherd's Pie en Casserole

Broccoli Spears Hollandaise

Roast Top Round of Beef au jus – Yorkshire Pudding

Baked Idaho Potato

Buttered Green Peas

Chicken Chow Mein

Chinese Fried Noodles

Pork Fried Rice (Relish Bowl)

Baked Fillet of Haddock – Creole Sauce

Rissole Potatoes

Succotash

Creamy Chipped Beef on Toast Points

Buttered Green Peas

Carrots Vichy

Salisbury Steak – Mushroom Sauce

Boiled Egg Noodles with Parslied Butter

Sauteed Green Beans Almondine

Stuffed Roast Leg of Lamb – Jardiniere Sauce

Boulangere Potatoes

Mint-Flavored Green Peas

Southern Deep-Fried Chicken

Corn Fritters

Chopped Broccoli with Butter Sauce

Omelette Variations (cheese, western, jelly, etc.) with Buttered Toast

Hash-Browned Potatoes

Braised Cubed Beef Steak – Swiss Style

Mashed Potatoes

Buttered Green Beans

Barbecue Burger Deluxe on Toasted Bun

French Fried Potatoes

Corn Mexican Style

Roast Fresh Ham – Brown Pan Gravy

Duchess Potatoes

Timbales of Spinach

Turkey a la King in Pattie Shell

Buttered Steamed Rice

Garden Green Peas Anglaise

Tuna Fish Salad Platter Veronica (with grapes)

Chilled Potato Salad

Sliced Tomato and Lettuce

Broiled Ham Steak Hawaiian

Delmonico Potatoes

Medley of Mixed Vegetables

Glazed Vienna Loaf – Tangy Tomato Sauce

Macaroni and Cheese

Fresh Squash in Season

Hungarian Veal Goulash

Whipped Potatoes

Cinnamon-Scalloped Apples and Carrots

Yankee Pot Roast – Jardiniere Sauce

Oven Roasted Potatoes

Cauliflower Polonaise

Golden Fried Fish Cakes or Fish Sticks – Tartar Sauce

Deep-Fat-Fried Julienne Potatoes

Country-Style Stewed Tomatoes

Week #6

Braised Cubed Beef Steak a la Stroganoff
Parsley-Buttered Egg Noodles
Broccoli Spears in Sesame Butter

American Chop Suey
Grated Parmesan Cheese
Brussels Sprouts

Baked Stuffed Pork Chop – Sage Apple Dressing
Potatoes Au Gratin
Harvard Beets

Baked Sugar-Cured Ham – Pineapple Raisin Sauce
Sweet Potato Casserole
Creamed Lima Beans and Corn

Broiled Swordfish Steak (or variation) – Lemon Butter
Boiled New Potatoes
Green Beans Almondine

Week #7

Grilled Ham and American Cheese Sandwich
Home-Fried Potatoes
Buttered Chopped Spinach

Broiled Sirloin Steak or Chopped Sirloin Steak D'Hotel
Scalloped Potatoes
Garden Fresh Green Peas

Old Fashioned Beef Stew en Crusta
Mixed Fresh Fruit
Baking Powder Biscuit

Savory Roast Chicken with Celery Dressing and Gravy
Mashed Potatoes
Fresh Asparagus (in season)

Lobster Newburg on Toast Points
Swiss Potatoes
Green Peas and Corn Panache

Grilled Hamburger with Tangy Cheese Sauce
O'Brien Potatoes
Sliced Tomato and Onion Rings

Curried Lamb a la Indienne
Rice Pilaf
Glazed Carrots

Spaghetti and Meatballs – Parmesan Cheese
Italian Tomato Sauce
Petite Antipasto

Oven-Roasted Young Turkey – Giblet Gravy – Celery Dressing
Whipped Sweet Potato Casserole
Creamed Onions
Buttered Peas and Carrots

New Orleans Shrimp Creole
Steamed Rice
Deep-Fried Eggplant

ALTERNATE MENUS

Turkey Salad Platter
French Fried Potatoes
Tomato Wedges and Cucumber Slices

* * *

Sauteed or Broiled Calves Liver
Mixed Grill
Lorraine Potatoes

* * *

Boiled Knockwurst
Buttered Mashed Potatoes
Germaine Sauerkraut

* * *

Turkey Croquettes – Egg Sauce
Spinach Vinaigrette
Broiled Stuffed Tomato

* * *

Deep-Fried or Broiled Seafood Combination with Cocktail Sauce and Tartar Sauce (Shrimp, Crabmeat, Scallops, Clams Casino, Fish & Chips)
Cole Slaw

* * *

Customer acceptance

As our menu cycle suggests, it is very important to be flexible enough to provide a menu the customer will accept. If you cannot provide what a customer wants, you may not have any customers.

Customers must be offered a selection that provides variety for people based on age, sex, and what kind of people they are – for example, businessmen, businesswomen, travelers, families, teenagers, or senior citizens. The selection offered must be nutritional as well as profitable, without costing the customer more than what he is willing and able to pay.

We must also remember those people that fall into special categories, such as hospital patients and captive customers of other institutional-type feeding operations. These customers have little or no choice of eating somewhere else, and they may be limited to special diets that must be made as appealing as possible.

Lack of acceptance by the customer can lead to only one end – another food operation that has gone out of business because it did not use this important tool of the trade.

During recent times, many specialized food operations have had to change or increase the types of foods offered because of competition. For example, the increased number of hamburger operations in the same general area has caused menu changes. Restaurants have gone from just ordinary hamburgers to double-decker hamburger sandwiches, and then to larger specialized types of hamburgers, such as "¼-pound Super Burger."

There can be trends or even fads in eating. In the mid-1970's many people began to reduce their consumption of red meats, both because of their high cost and because of a world-wide shortage of grain (used to fatten meat animals). An alert manager could take advantage of this trend by offering more items based on meat substitutes such as cheese or dried legumes.

Controlled menu cycle changes

There will be times when you'll find it best to make changes in your planned menu cycle. Sometimes, for example, a change in the market will allow you to make a good buy on an item you would not generally use because of its lack of availability or because of its high price. This would be a change controlled by you.

You may wish to change your planned menu cycle for a special holiday such as Thanksgiving, where it is the custom to serve such things as turkey and pumpkin pie. Or you may change the menu to serve foods that are generally served on religious holidays.

You may find it desirable to change the menu cycle because of inflation (a time when prices go up on almost all items and our dollars buy less). You might offer foods that are less expensive, but still provide the nutrients needed for a good balanced diet.

At times of particularly high meat prices, some restaurants have gone to meatless days, substituting such items as cheese or eggs. This idea is designed to bring meat prices down by reducing the demand.

Uncontrolled menu cycle changes

There are times when we have to change our menu cycles because of circumstances or events that we cannot control.

Mother Nature is one of the greatest sources of happenings that force us to make changes.

Poor weather often causes crop damage. Examples of this are:

too much rain
not enough rain
very cold temperature
very hot temperature
violent storms such as hurricanes, twisters, typhoons, hail, or sleet.

Any of these things can cut the size of a crop, resulting in shortages of many food items. When crops are damaged or destroyed, that particular crop of food will cost more money than you may be able to pay.

Besides causing prices to go up, poor weather conditions can cause poor quality of the food available. If the quality of the food you use is not good, then the quality of the food prepared from it will be poor as well.

As yet no one has come up with a way to make a good finished food product out of poor ingredients.

Menu cycles may also need to be changed when situations, other than weather, suddenly reduce the availability of certain foods.

Foods come from all parts of this earth. Therefore, uncontrolled forces such as wars, changes of governments, and changes in relations between our country and others also can result in certain foods' not being available. This also causes rising prices of foods, or changes in quality if other foods are used as substitutes.

A good example is our break in relations with Cuba when Fidel Castro came to power. At the time of the change in our relationship, we were importing from Cuba more than one-half of all sugar consumed in this country. This meant we had to go to other sources of sugar. This, in turn, caused a rise in the cost of sugar.

Again, world market conditions in the mid-1970's caused a sudden rise in the cost of sugar to four or five times its previous level. Desserts using particularly large quantities of sugar became extremely expensive to produce.

People can also bring about a change in the availability of foods. If dock workers or railroad workers should go on strike, these methods of delivery would be stopped or held up. Here again, we may be forced to change our menu cycle as a result of the strike.

There have been times when crops have been reduced or destroyed by insects or diseases. At times crops have been condemned because certain chemicals, used to fight insect infestation or disease, have been found to be harmful to man. We must accept these uncontrolled situations and change our menu cycles accordingly.

Summary

It is important to have menu cycles so we can have this tool to help us in feeding the public properly, regardless of the constant challenges facing us.

With a menu cycle, we can adjust to customer acceptance, controlled changes, and uncontrolled changes, and still keep our service at the highest possible standards.

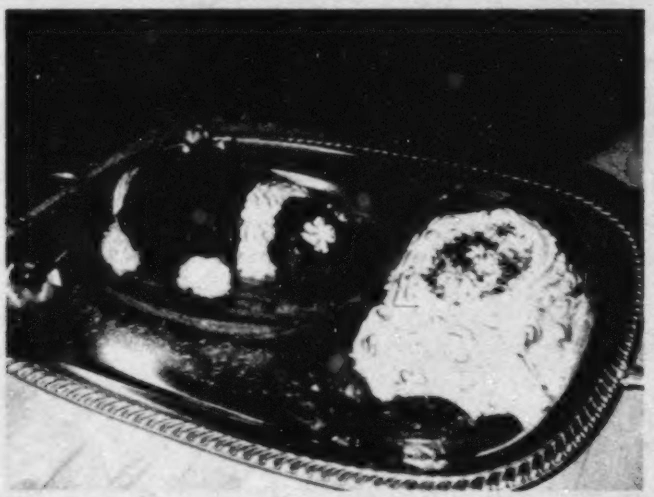
Vocabulary

category	– class or division formed for the purposes of classification.
challenge	– a difficult situation that stimulates thought or action.
condemn	– to judge unfit for use or consumption.
infest	– to spread or swarm in or over in a troublesome manner.
legume	– a certain type of vegetable that is produced in pods and is rich in protein. Examples are beans, peas, soybeans, lentils, and peanuts.

UNIT III

SUNDAY
MILK
EGGS
SATURDAY
FRUIT
POULTRY
WEDNESDAY
POULTRY
JUICES
FRUIT
VEGE
THURSDAY
EGGS
VEGET
FRUI
FRIDAY
MEATS
FRUIT
EGGS
VEGETA
MILK
TUESDAY
EGGS
MILK
MEATS
FRUIT
VEGE
MONDAY
CEREAL
MILK
DI
ET

ROLE OF A BALANCED DIET IN THE MENU CYCLE



Freshly ground beef can be shaped into any form.
(Planked Meatloaf, Duchess Potatoes, Baked Stuffed Tomatoes)

Eating and us.

Most of us would choose to eat only those foods we like best. But we usually have someone who is wise enough to make sure we eat the foods necessary for good health, whether we like them or not.

Eating is an adventure, a beautiful trip through the unknown. Have you ever wanted to do something that had the feeling of suspense and adventure, but you had just enough fear of the unknown to hold you back?

Let me tell you a story. Many years ago, I was young and learning to sled in the winter. In our small town, we had a long, steep hill, about the length of a football field, that ended abruptly at a lake. What made this sled-run so exciting, with the hint of danger, was the fact that the hill ended about four feet above the ice of the lake, much like the end of a ski run. If you went too fast, you had very little control over how you landed. If you went too slow, you would nose over and land like a bird that had suddenly lost its wings.

It took a lot of courage to try it the first time. We were afraid of being hurt, but also afraid of being called "yellow" or "chicken" by our friends. After the first try, if you made it, the hill didn't look as steep or as long, and the drop to the ice seemed to be only a few inches.

When we eat at home we don't usually have a choice from the menu. We eat what is served or go hungry. When I was growing up, we ate what was put on our plates, even if we sat there all evening. Of course, I usually decided I would eat everything (knowing full well it would kill me or something), so I could go out and play or do something I liked.

When you become old enough to eat away from home, such as in school or at the corner variety shop, you start to buy those things that you like best. The things you like best may not be the best things for you.

It is for these reasons that menu cycles are used to present you with a variety of good foods over a given period of time, so that you have the opportunity of selecting the foods that will make you happy and strong. Yes, we said "happy," because what you eat does have an effect on your attitudes and emotions.

A calorie is a what?

Just as ingredients can be measured in cups, gallons, or pounds, the *heat or energy value of food* can be measured.

The unit of measure is a *calorie.* Chemists have burned different kinds of foods in such a way that they have been able to tell how much heat or energy is released by each food. This tells them how many calories are given off by the different foods in our bodies.

Here are some examples:

Food	Measure	Food energy calories
Apple, fresh	1 medium, 2½" diameter	76
Applesauce, canned	1 cup	184
Bacon, cooked	2 slices	97
Beans – baked, canned, pork & molasses	1 cup	325
Beef, round, lean	3 oz (no bone)	197
Beef, rib roast	3 oz (no bone)	266
Frankfurter	1 cooked	155
Carrots, cooked	1 cup, diced	44
Orange juice, fresh	1 cup	108
Potato chips	7 large	108

Some kinds of foods have a much higher caloric value than others. Starches, sugars, and proteins have approximately the same number of calories for a given weight of the substance, while fats and oils have over twice the number of calories for the same weight. The presence of a lot of water in a food generally means fewer calories. For example, snap beans, with a lot of water in them, have very few calories, while dry beans, with much less water, are high in calories.

When choosing the foods you eat, you must take into consideration not only the calories they contain, but their entire nutritive value. If you don't, you may have a full stomach but very little nourishment.

To help you understand why the total amount of calories you eat is very important, here is a chart that shows the approximate number of calories that a young person requires based on age, height, and sex. These figures are based on the average age, weight, and height of a large group of girls and boys. Check and see where you fit into this chart. Don't be distressed, however, if your height and weight don't seem to fall into the right age group. Everyone grows at a different rate. You'll get there.

	Ages	Lbs.	Height	Calories
Boys	11–14	97	5'3"	2,800
	15–18	134	5'9"	3,000
	19–22	147	5'9"	3,000
Girls	11–14	97	5'2"	2,400
	15–18	119	5'5"	2,100
	19–22	128	5'5"	2,100

Why are most people concerned about calories today? Because they affect our body weight and body condition. Physical fitness in this country has been considered important enough for the President to set up a council on physical fitness. You may have seen a commercial on TV, or received a booklet from your gym teacher, about how unfit we are, how fat we are, and how these things affect our health and length of life.

Now that we have pretty well established the fact that calories play an important role in our lives, let's find out just what a calorie is. A calorie is a measurement of heat energy, just as an inch or a centimeter is a measurement of length, and a pound or a kilogram is a measure of weight. A calorie is defined as the amount of heat it takes to raise the temperature of one kilogram of pure water by one degree centigrade. Since all forms of energy can be changed to other forms, calories can be used to measure other forms of energy as well as heat.

You will notice that calories have nothing to do with vitamins, proteins, minerals, and other nutrients in foods. They are a measure of *heat* or *energy only*. A food may be rich in many nutrients and very low in calories (e.g., broccoli, kale, collards); a food may be rich in many nutrients and fairly high in calories (e.g., milk, meat, peanuts, prunes); or a food may be very poor in nutrients and very high in calories (e.g., sugar, pasta, unenriched bread).

Why does the body require calories? Calories supply the body with the energy to (1) carry on the basic life functions – breathing, heartbeat, etc., and (2) move about and engage in all sorts of activities. The more active we are, the more calories our bodies need. Here is an interesting list that shows the number of calories that a man weighing about 155 pounds would use up in an hour's worth of various activities.

Form of Activity	Approximate Calories Used per Hour
Sleeping	65
Awake, lying still	77
Sitting	100
Dressing and undressing	118
Reading	120
Typewriting rapidly	140
Sweeping	169
Riding a bicycle	175
Walking moderately fast	300
Walking downstairs	364
Shivering	400
Sawing wood	460
Swimming	500
Walking upstairs	1,100

You can see why the amount of calories we eat is very important. If we take in more calories than we use, the excess is stored by our bodies in the form of fat. This fat will continue to accumulate as long as we eat more food than our bodies use up. On the other hand, if we do not eat enough food to supply the body with the energy it needs, then it will use up some of the fat stored in the body. If there is no fat available, the cells will starve and die. This leads to malnutrition or even starvation.

In our society, there is no lack of calories for any but the very poorest people. For the average person, therefore, the problem of choosing the right food becomes a problem of selecting those foods that give us proper nutrition as well as enough calories. Foods that have a great amount of sugar (candy, cake, sodas, etc.) are high in calories, but are lower in nutritive value than other foods.

Let's compare a well-balanced meal with a 2-inch piece of iced layer cake.

A well balanced meal:

	Calories	Protein Grams	Fat Grams	Carbohydrate Grams
3 oz. lean ground beef	185	23	10	0
1 slice enriched white bread	60	2	1	12
1 cup of broccoli	45	5	Trace	8
1 tbsp butter	100	Trace	11	Trace
1 glass skim milk	90	9	Trace	13
Total	480	39	22	33
1 2" slice iced layer cake	490	6	19	76

Comparison of nutrients

			Layer Cake	Balanced Meal
Total Calories			490	480
Growth and Energy Nutrients	Proteins	(grams)	6	39
	Fats	(grams)	19	22
	Carbohydrates	(grams)	76	33
Mineral Nutrients	Calcium	(milligrams)	114	525
	Iron	(milligrams)	0.6	5.7
Vitamin Nutrients	Vitamin A	(int. units)	220	5,590
	Thiamine	(milligrams)	0.03	.34
	Riboflavin	(milligrams	0.10	.90
	Niacin	(milligrams)	0.2	7.1
	Ascorbic acid	(milligrams)	--	113

Source: *Food: The Yearbook of Agriculture,* 1959, U.S.D.A.

What are Nutrients?

Our bodies are made of bones, blood, muscle, fat, nerves, etc. Almost two-thirds of our bodies is water. Water has no nutritive value, but the body cannot survive for more than a few days without it.

Nutrients are the chemical substances in foods that are useful to the body. The nutrients are classified as proteins, fats and oils, carbohydrates, minerals, and vitamins.

The food we eat is broken down by digestion into simple parts so the body may absorb them into the bloodstream through the intestinal tract. The digested food is then combined with oxygen within the body cells, providing the body with the essential nutrients for growth, repair of worn or damaged cells, and energy for work and play.

The major nutrients, their functions, and the foods that supply them are discussed in the following pages.

Carbohydrates

Sugars and starches are carbohydrate nutrients. Cellulose, another carbohydrate, has no nutritive value because it is indigestible by humans. It is found in the fibers of all plants, such as celery, apple skins, and hulls of grain kernels such as corn. It serves as bulk or roughage, and hence aids in proper intestinal elimination.

Sugars:

Sucrose - a pure carbohydrate, is used in the form of granulated, confectioners (or powdered), and brown sugars. It comes from sugar cane or sugar beets and is found in many common fruits and vegetables.

Lactose – occurs in milk

Glucose and fructose – found in honey and in fruits and vegetables such as apples, grapes, oranges, peas, corn, and sweet potatoes.

Maltose – found in malt products and sprouting grains.

Note: Sugars do not supply any nutrients except carbohydrate.

Starches:

Found in:
- Cereal grains – wheat, oats, rye, rice, barley, corn, etc.
- Tuberous vegetables – white potatoes, sweet potatoes, etc.
- Legumes – beans, peas, lentils, peanuts, etc.
- Other vegetables – carrots, beets, winter squash, etc.
- Nuts and fruits

Other nutrients are found in starchy foods in varying types and amounts. It is important to balance a meal around the particular starchy vegetable or cereal grain you use. For example, you would not want to serve potatoes and rice at the same time, because you would have too many carbohydrates and not enough of the other nutrients (which are more likely to be lacking in the diet than starch).

Other facts about carbohydrates:

1. They provide energy.
2. Sugars when burned (oxidized) in the body yield 48 calories per tablespoon.
3. All starches are broken down, during digestion, into their simple sugar components.
4. Digested sugars can be burned for heat and energy or, if taken in excess of the calories needed, will be stored by the body in the form of fat.
5. Carbohydrates are essential for the proper use of fats in the body.

6. Carbohydrates "spare" proteins in the body. When there are sufficient carbohydrates (and fats) taken into the body, they, rather than the proteins, are burned for "fuel." This leaves the proteins to take care of their essential job of building tissues and repairing worn out cells.

7. Carbohydrates contribute approximately 50% of the total calories of Americans. In some parts of the world the percent is as high as 80%. One reason is that the cheapest foods are generally carbohydrates.

Fats and oils

Note: Fats that are solid at room temperature are called fats. Those that are liquid at room temperature are called oils.

Plant fat: Found in corn, nuts, olives, soybeans, coconuts, safflower seeds, sesame seeds, etc.

Animal fat: Found in meat, whole milk and its products, fish, egg yolk, etc.

Other facts about fats

1. Americans typically get 40 to 45 percent of their total calories in the form of fat. (A more healthful proportion would be about 35%, according to several authorities.)

2. Fats make foods more flavorful.

3. Their slow rate of digestion holds off that hungry feeling.

4. Fats are more concentrated in fuel-energy value and yield about 2¼ times as many calories, per unit of weight, as carbohydrates.

5. In addition to providing energy values, they are needed to allow the body to use the essential fat-soluble vitamins, A, D, E, and K.

6. Food intake (whether carbohydrate, fat, or protein) which is in excess of the body's immediate needs is stored as fat.

7. Some stored fat is necessary in the body for a number of reasons:
    a. As an energy reserve for those times when food intake does not meet the body's requirements.

    b. Fat stored under the connective tissue serves as insulation and conserves body warmth.

    c. It serves as a support and protector for vital organs such as the kidneys.

8. Excessive fat puts a burden on the heart and other organs and also detracts from personal appearance. Overeating of fats generally goes along with overeating of other foods. Thus, body weight increases rapidly.

9. Fried foods, rich gravies and sauces, salad dressings and pastries add great numbers of calories to the diet and slow down digestion.

10. Some fats are "saturated," and others are "unsaturated." Saturated fats are called that because they contain all the hydrogen that a fat can possibly contain. Unsaturated fats have places (in their molecules) for one or more additional hydrogen atoms. In general, the solid fats – in meat, milk (butterfat), and eggs – consist of mostly saturated fats. Poultry fat has a larger amount of unsaturated fats than other meats. The liquid fats (from soybean, corn, and other vegetables) and the fats in fish contain mostly unsaturated fats. Coconut oil is the big exception – it is more saturated than meat fat and butterfat even though it is liquid.

11. Nutritionists recommend that we decrease our intake of saturated fats and substitute unsaturated fats, particularly the so-called *poly*unsaturated fats. They believe that this will slow down the deposit of cholesterol in our arteries and thus make us less likely to suffer from heart attacks.

12. Cholesterol, a fatty material made by the body, is also found in many foods. Eggs are particularly rich in cholesterol, followed by liver and other animal organs. Meats, fish and shellfish contain lesser amounts. Cholesterol is often deposited on artery walls, particularly when the blood is rich in digested saturated fats.

13. The subject of saturated and unsaturated fats and cholesterol and their effects on the body is at present being studied by many scientists. Much still remains to be learned in this field.

Proteins

Proteins are a part of:

1. All body cells – muscles, bones, body organs, etc.
2. Blood and all other body fluids
3. Body hormones and enzymes – chemical regulators
4. Hair and nails

Proteins aid body growth and development because they play an important part in helping every living cell in the body. They are present in greater amounts than any other substance except water.

Other facts about proteins:

1. Removal of protein from the diet results in tissues' wasting away and dying, loss of vigor, and loss of resistance to disease.

2. Some proteins are more effective than others because all proteins do not have the same value. Proteins are complex substances made of varying combinations of chemical units called *amino acids.* The body can make some of these acids, but the rest must be supplied by the food we eat. The kinds and amounts of amino acids in a protein determine its nutritive value.

3. Animal sources of proteins generally supply all the amino acids in about the same proportions in which they are needed by the body. For this reason, they are called *complete proteins.* They have high nutritive value. Eating some form of meat, fish, fowl, cheese, or eggs, or drinking milk (whole or skim), or getting milk in cooked foods supplies your body with complete proteins and therefore should be part of your daily diet.

4. Proteins from grains (corn, wheat, rice, etc.), vegetables, and nuts are called *incomplete proteins* because they do not supply all the essential amino acids. Their nutritive value is lower than that of animal protein. Legumes (beans, peas, lentils, and especially soybeans and chickpeas) are almost as good as animal protein. Incomplete proteins may supplement one another. The grains are likely to supply the amino acids that the legumes lack. For example, peanuts and wheat eaten at the same meal (as a peanut butter sandwich on whole grain bread), or a dish of beans and rice (or macaroni) combined, or whole wheat bread with pea soup – all these combinations form complete protein foods. Incomplete proteins, when combined with complete proteins, are of more value to the body than when eaten alone; for example, adding milk to cereal increases the protein value of the cereal.

5. Young people need more protein because they grow continuously from birth to the late teens or the early twenties. Even when full height is reached, the muscles and internal organs continue to grow.

Minerals

Minerals are inorganic, or non-living substances. They do not furnish energy to the body. They are:

1. Building materials for bones and teeth
2. Constituents of blood and soft tissues
3. Promoters of health.

Other facts about minerals:

1. There are approximately 20 different minerals in your body structure, carrying out essential activities. Most important are calcium, phosphorus, iron, and iodine.

2. Some minerals are found in your body in extremely small ("trace") amounts. Some minerals work in combination; for example, calcium and phosphorus are needed together for strong teeth and bones.

Individual mineral needs:

1. Calcium – the most important building material of the body. Combined with phosphorous, it gives rigidity and hardness to bones and teeth. Although needed throughout life, it is most important during young years. It is necessary for the clotting of blood, the sending of messages along nerve fibers, and several other important functions of body organs and tissues. By far the best source of calcium is milk and milk products.

2. Fluorine – also helps build good teeth by making enamel harder, and helps to prevent tooth decay. In some parts of the country it occurs naturally in drinking water. It is sometimes added to drinking water in areas that lack it.

3. Phosphorus – an essential part of every cell in the body. Chemically, phosphorus works with carbohydrates, fats, and proteins to give energy and materials for growth and repair. It helps blood in its functions, and, with calcium, is necessary for the work of muscles and for normal responses of nerves to stimulation. It is found in the animal-protein-rich foods (milk, cheese, meat, fish, eggs, and poultry.)

4. Iron – needed for the red blood pigment, hemoglobin. Hemoglobin is an iron-containing protein compound which carries oxygen from the lungs to all the tissues of the body. Unlike many minerals, iron can be stored in small amounts in the liver, spleen, and bone marrow, and can be called upon during times of bodily need. Iron is stripped from dead blood cells and most is reused again and again. That is why it is needed in fairly small amounts in the daily diet. Young women need almost twice as much as young men (past 18 or so) due to the loss of blood during menstruation. Especially rich sources of iron are liver, heart, some shellfish, and legumes. Meat, eggs, leafy green vegetables, dried fruits, and molasses are other good sources.

5. Iodine – necessary for proper functioning of the thyroid gland, which is tremendously important in the body's growth and development and in producing energy from food. Sources of iodine are vegetables and fruits grown near the oceans, and seafood. In areas where iodine is not available in food or water, iodized salt is commonly used to provide the daily requirement.

Vitamins

Vitamins are organic substances that the body requires (in very small amounts) in order to keep healthy. They occur in natural foods, although a few can be produced by the body. Vitamin deficiencies cause illness in humans and animals. This is why it is important to have a well-balanced daily diet with foods from each of the four major categories. Each vitamin has a specific role to play in the functioning of the body.

Facts about vitamins:

1. Vitamins are classified as being fat-soluble (dissolving in fat) or water-soluble (dissolving in water).

2. Foods containing fat-soluble vitamins do not lose their vitamin content readily when they are cooked in water. The following vitamins are classified as fat-soluble: A, D, E, and K.

3. The water-soluble vitamins include vitamin C and the many types of vitamins that are grouped together as members of the B-vitamin complex: thiamine, riboflavin, niacin, and several others. Note that vegetables containing water–soluble vitamins should be cooked quickly in a small amount of water. If any cooking water is left, it should be used in soups, sauces, or gravies.

Vitamin A – helps to keep the skin and the linings of nose, mouth, throat, and inner organs in good condition. If these surfaces are weakened, bacteria can invade more easily. It is also necessary for normal night vision.

Vitamin A occurs only in foods of animal origin. However, all yellow and dark green vegetables contain a yellow pigment called carotene, which can be changed into Vitamin A by the body. It is estimated that about two-thirds of vitamin A in the American diet comes from the intake of carotene. The rest comes from animal sources, including milk, butter, eggs, and cheese. Liver is very rich in vitamin A. Fruits and vegetables containing carotene are carrots, pumpkin, sweet potatoes, spinach, beet greens, peaches, apricots and cantaloupe.

Vitamin A is stored in the liver. Serious injury to health may result from overdosing with very large amounts (from the drug store, not from food).

Since vitamin A and carotene are fat-soluble, they are stable during ordinary food-preservation processes. There is no loss by extraction during cooking. Exposure to air or oxygen and heat will destroy both vitamin A and carotene. When foods such as eggs and vegetables are air-dried, there is considerable loss of vitamin A. Vacuum drying prevents such loss.

Vitamin D (the sunshine vitamin) – important to the young because it works with calcium and phosphorus to form strong bones and sound teeth. Ultraviolet rays from the sun turn certain substances in the skin into vitamin D. Without enough vitamin D, children's bones become weak and are easily deformed (bent out of shape).

Very few foods contain significant amounts of vitamin D. It is usually supplied by addition to food products – for example, fortified milk. However, salt-water fish, fresh and canned, do contain the vitamin, as do egg yolk and liver. Infants, children, teenagers, pregnant and nursing women, and elderly people who don't get out of doors – these should be sure to get vitamin D in some form.

Vitamin E – necessary to the body in helping to protect the red blood cells and in other ways. Various defects have been demonstrated in experimental animals from whose diets all of this vitamin has been removed. However, a vitamin E deficiency has not been identified in humans, as the vitamin is widely distributed in both plant and animal foods. At present there is much fuss about the benefits of vitamin E when taken as a dietary supplement; to date none of these claims has been proved by scientific research. Like vitamins A and D, vitamin E can be stored in the body for use when needed.

Vitamin K – essential for normal blood clotting. It is available in food, but most of the body's supply comes from its own intestinal tract, where the vitamin is "manufactured" by the bacteria that exist there. The only time a normal human being does not have enough of this vitamin is at birth – before the intestinal bacteria have got started, or possibly after prolonged treatment with antibiotics that have killed the bacteria off.

The B-vitamins – form a large group of at least 11 vitamins. All are water-soluble, cannot be stored in the body, and are dissolved out of foods in cooking water. Best known of the B-vitamins are thiamine, riboflavin, and niacin. They are important in converting fuel to energy and building up and maintaining the body cells and tissues. An adequate supply helps promote normal appetite, good digestion, steady nerves, normal skin, and good morale. Few foods contain large amounts of each of the B-vitamins, but a good, balanced diet will supply an adequate amount for the body. One way of maintaining a high vitamin-B level is to eat cereal products made from whole or enriched grains. Lean pork and legumes are other good sources.

> Thiamine, (B_1) – promotes appetite and digestion, keeps the nervous system healthy, and helps the body release energy from food. It is found in the brown outer coats of rice, wheat, and other cereal grains. It is easily destroyed by overcooking foods, or cooking in too much water. While a large amount of the world's population is dependent on rice for thiamine, people in North America get some from cereal grain, meat, milk, legumes, nuts, potatoes, and other vegetables.

Riboflavin – helps cells use oxygen; helps keep skin, tongue, and lips smooth and normal. It is a yellow pigment found in plants and animals. Two outstanding sources are milk and liver.

It is relatively stable in heat, but is destroyed by exposure to light. The amounts of milk recommended to supply sufficient calcium, along with other foods, will usually fulfill the riboflavin requirements.

Niacin (nicotinic acid) – lack of niacin can cause skin rashes, disturbance of the digestive tract, and psychic changes, such as anxiety and depression. A diet that is well balanced with adequate amounts of meat, vegetables, and whole-grain cereals will supply niacin in sufficient quantities. Tunafish, liver, and peanuts are especially good sources.

Vitamin C (ascorbic acid) – promotes and protects various body processes. It is believed that this vitamin forms a cement-like substance that helps to hold the body cells together. Its main functions are to keep mucous membranes healthy, give strength to our blood vessels, and help in healing wounds, preventing hemorrhages, and preventing infections. There is conflicting evidence so far as to whether massive doses can help in preventing colds or lessening their effect.

Good sources of vitamin C are fruits and vegetables, especially citrus fruits, such as oranges, grapefruits, lemons, and limes; also melons and most berries. Other good sources are tomatoes, all members of the cabbage family, red and green peppers, spinach, and potatoes cooked in their skins. Vitamin C tends to be destroyed when we prepare foods that contain it. The rate of loss increases with exposure to air and heat. It is important to store foods rich in vitamin C at low temperatures, prepare them just prior to serving, and avoid lengthy cooking. Generally, we get more vitamin C from fruits and vegetables when we eat them raw.

Water

Approximately two-thirds of body weight, in a person of average build and fatness, is water. Water is not broken down by digestive juices as foods are. Since water is a part of the digestive juices, all body fluids, and all body cells, it is essential to every body process. It has no food value in itself, but it may contribute some minerals that are dissolved in it.

Water is more necessary to life than food. You may live weeks without food, but you could last only a few days without water.

Water serves as a carrier, transporting nutritious substances to all parts of the body by way of the blood stream. It also carries dissolved waste materials through the body and aids in their elimination through the lungs (as water vapor), through the skin (as sweat), and through the kidneys and the intestines. It is essential in the regulation of body temperature in two ways: (1) in the blood it circulates through the body, helping to keep a constant temperature, and (2) through evaporation via the skin it removes excess heat. It is second only to oxygen as a constant body need.

Normally your own thirst is enough of a guide to the amount of water your body needs. However, if you must work under particularly hot conditions, you should make an effort to drink extra water, or you may become very fatigued. It takes a few days for the body to adjust to very hot weather and for your thirst to catch up with the body's actual need for water.

The tables on the following pages summarize the facts on the various food nutrients.

Major Nutrients and What They Do in the Body

Proteins

Build and repair all tissues.
Form the substances in blood that fight infection.
Supply energy.

Fats and Oils

Supply a large amount of energy in a small amount of food.
Supply important fatty acids for proper growth and development.

Carbohydrates

Supply energy.
Help the body absorb and use fats.
"Spare" proteins, so that the proteins need not be used for energy.

Minerals

Calcium
Helps build bones and teeth.
Helps muscles and nerves work properly.
Helps blood to clot.

Iron
Combines with protein to produce hemoglobin (the red substance in the blood that carries oxygen to the cells).

Vitamins

Vitamin A
Helps prevent night blindness.
Keeps skin and mucous membrane healthy and resistant to infection.

Thiamine (B_1)
Aids normal appetite and digestion.
Keeps nervous system healthy.
Helps change chemicals in food into energy for work and heat.

Riboflavin (B_2)
Helps cells use oxygen.
Helps keep vision clear.
Protects skin from scaling or cracking around mouth and nose.

Niacin
Prevents pellagra (a skin disease).
Helps prevent inflammation of the mucous membranes.

Ascorbic Acid (C)
Aids in keeping body cells together and strengthens the walls of blood vessels.
Helps the body resist infection.
Aids in healing.

Vitamin D
Helps the body absorb calcium.
Builds strong bones.

Good, Medium, and Poor Sources of Calories, Proteins, Fats, and Carbohydrates

	Calories	Protains	Fats	Carbohydrates
Good to Excellent Sources	Whole & non-fat milk Whole-milk cheese Cream, ice cream Ice milk Eggs Most meats Dried fruits Dried and mature legumes All nuts, peanuts, peanut butter White & sweet potatoes Oats, wheat, corn, & rice Butter & margarine Vegetable oils & shortening Meat fat, bacon Sugar, syrups	Whole & non-fat milk Cheeses Ice milk Eggs Meats & poultry Fish Shellfish Mature & dried legumes Peanuts & peanut butter Some other nuts	Whole milk Cream Ice cream Most cheeses Most meats All nuts, peanuts, peanut butter Butter, margarine Vegetable oils, shortening Meat fat, bacon Chocolate	All cereal grains All sugars White and sweet potatoes Mature and dried legumes Dried fruits Ice milk, ice cream
Medium – Good Sources	Most fresh fruit Some vegetables Fish and shellfish	Ice cream Enriched & whole-grain bread Cereals A few vegetables esp. green, leafy	Olives Eggs Some fish	Many fresh vegetables Most fresh fruits Whole & non-fat milk
Poor Sources	Green, leafy or fibrous vegetables	Sugars Fruits Most fresh vegetables	Grains Vegetables Fruits Sugar Shellfish	Meat, fish, shellfish Fats Cheeses

Good, Medium, and Poor Sources of Calcium, Iron, Vitamin A, and Ascorbic Acid

	Calcium	Iron	Vitamin A	Ascorbic Acid
Good to Excellent Sources	Milk and most cheeses Most shellfish Ice milk Yogurt Canned fish with bones – sardines, salmon Dark green, leafy vegetables Almonds, Brazil nuts	Liver, heart, kidneys Mature and dried legumes Shellfish Most meats Some dark, green, leafy vegetables	Liver, kidneys Whole milk Whole-milk cheeses Eggs Dark green and yellow vegetables Yellow fruits Enriched margarine	Citrus fruits Tomatoes Cabbage and related vegetables Most leafy greens Strawberries, melons Red and green peppers
Medium – Good Sources	Ice cream Mature legumes Sweet potatoes Green and yellow vegetables Dried fruits Cottage cheese Molasses	Dry fruits Most vegetables Molasses Enriched grain products	A few fish and shellfish Tomatoes, red peppers Some dried fruits	Most non-citrus fruits Potatoes
Poor Sources	Most bread White potatoes Most vegetables Most meats, fish Grains	Milk and milk products Fresh fruits Grains Fats	Grains Lamb & Pork	Milk and milk products Meat, fish, eggs

Factors affecting our health and growth

As we have indicated earlier in the text, menu cycles must be used as a trade tool for supplying all kinds of people with a variety of foods to fit their needs. These include people who are sick or well, young or old, active or inactive. They may be salesmen on the road, people in schools or in the armed services, or families or couples who are dining out.

Most scientists, doctors, nutritionists, and others involved in the science of life tend to agree that the human body and mind (brain) continue to grow through the late teens or early twenties. For this reason, it is most important that you practice and understand good eating for good growth.

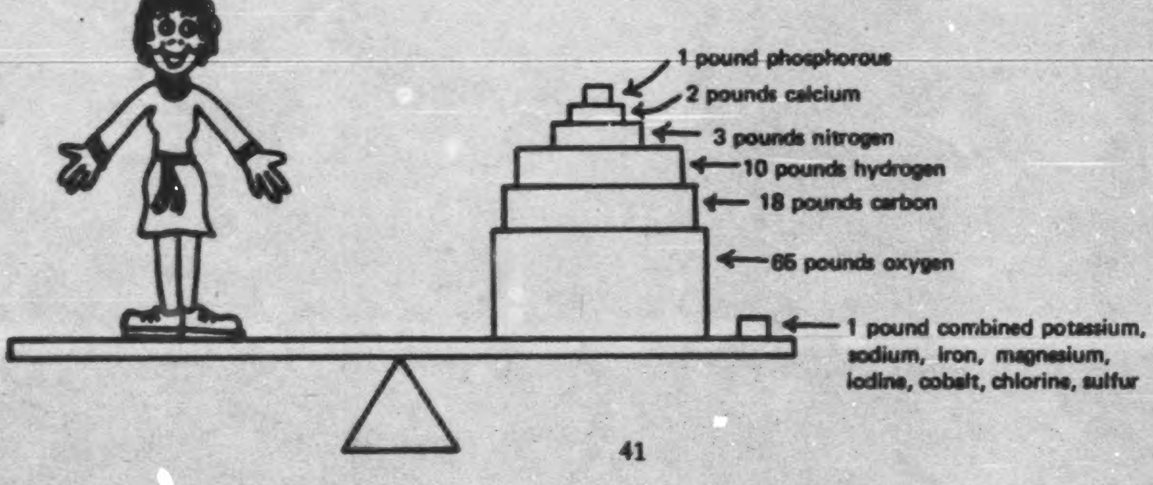
There is still quite a mystery about why we have certain diseases that we seem unable to control, such as cancer, heart disease, hypertension, muscular dystrophy, and so many others. Most of the research so far tends to show that in many diseases, there is imbalance of basic body chemistry. If this is true, then our heritage, the food we eat, the air we breathe, and the way we generally treat our bodies become very, very important.

For now, let's center in on those things we have already learned. The knowledge of basic nutrition has shown that the types of foods we eat play an important part in our health. This means both our physical health (feeling good, wide awake, and alert) and our emotional or mental health (how we feel emotionally, like being upset or feeling blue, being friendly, or being a grouch, who got up on the wrong side of bed).

Although food is not the only factor affecting our physical and mental growth it is vital that we eat the right kinds of good quality foods, in the correct amounts.

Chemists can tell you what elements are in your body and approximately how much of each is there. They have found that the protoplasm of your cells contains over 40 different chemicals.

Here are the elements that make up most of your body weight. To make it easy, make believe your weight is 100 pounds and you are on a balance scale.



Where does the body get all these materials? There is one source only – what we put into our mouths as food and drink. The body, in its own marvelous way, breaks down our food into simple substances, uses some of these for energy, and recombines the rest into countless materials. Some of these materials will become part of the body's structure; others will become hormones and enzymes that make all the parts do what they are supposed to do. Nothing in the body "stands still" – there is a constant interchange of materials. Even the calcium in the bones is constantly being withdrawn to maintain the proper level of calcium in the blood, and then redeposited when more is made available.

No one but *you* can help your own body grow and mature properly, and keep it functioning at its very best. Fresh air, exercise, rest, medical treatment when necessary – all these are important. But probably the most important thing you can do for your own body is to eat properly – to give your body each day a variety of good, wholesome foods to use in its wonderful ways.

Summary

We have really only touched the surface of the importance of nutritionally balanced menus and menu cycles. Although we can put together the proper varieties of foods for your consumption, *you* are the one who decides what you will or will not eat.

Thus, it is of great importance that you know how to choose the right foods for yourself, as well as offering the right foods to those people whom you will serve in the years to come.

No one food contains all the nutrients needed to promote growth, make repairs, protect, regulate, and provide energy. As you have seen, however, some foods are much more valuable than others. In planning daily menus, it is important to choose a variety of foods. Together they should provide all the nutrients that the body requires.

Vocabulary

abruptly – suddenly, without warning.

cholesterol – a fatty substance required (and made) by the human body, but which can also cause the arteries to harden. Too much thus can lead to ill health.

complex – not simple

constituent – serving to form, compose, or make up

enzyme – a chemical agent made by cells that enable the various chemical processes of the body to take place, e.g., digestion of food

fluid – liquid

hormone – a chemical substance secreted by a gland in the body that travels in the blood stream and affects other portions of the body.

malnutrition – lack of proper food

nourishment – furnishing or sustaining the body with desirable foods.

nutrient – any substance in foodstuffs that is useful to the body.

nutrition – furnishing or sustaining the body with desirable foods.

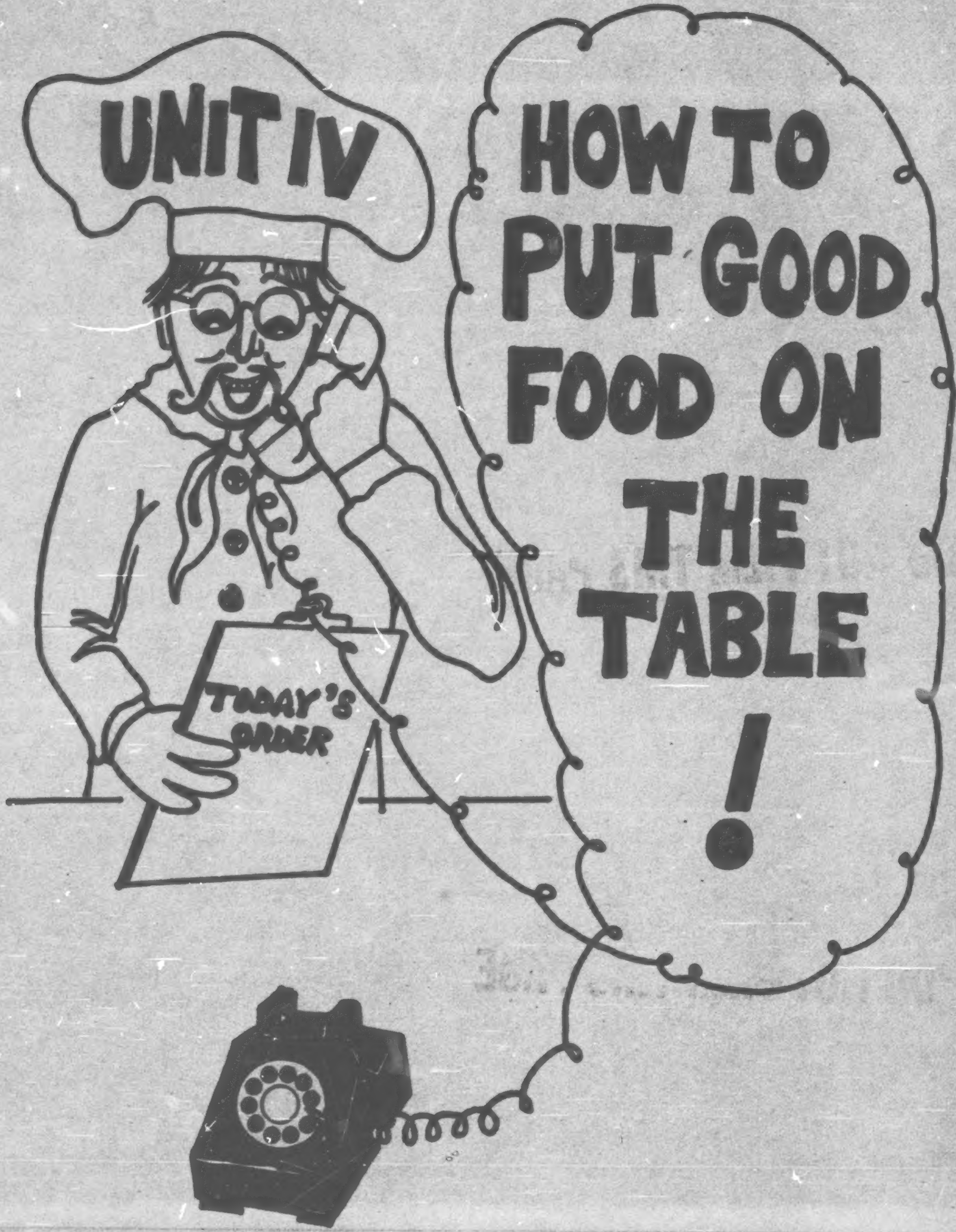
resistance – the ability to resist or prevent something from happening

soluble – capable of being dissolved

stimulate – to increase greatly

vigor – active strength or force of body

vitamin – an organic substance that the body requires in very small amounts in order to stay healthy.


UNIT IV
HOW TO PUT GOOD FOOD ON THE TABLE !
TODAY'S ORDER

UNIT IV – HOW TO PUT GOOD FOOD ON THE TABLE

Purchasing

A meal that is delicious and often remembered is one which has been made with superior products. It is an error to think that a good cook is one who can produce a delicious meal from inferior materials. Of course, it is true that foods which may not be appealing in themselves may become much more attractive with the addition of herbs and spices. Herbs and spices were originally used to cover up the taste of inferior foods. Before cold storage became popular, many food products would reach and go past their best serving quality or even spoil, before they were cooked. So it was important to change or hide the aroma or color of the served food. Today, however, the gourmet dish has the flavor of spices and herbs only to add to the taste of superior products.

Purchasing or buying is the same wherever it is done. First, we buy what we need, and we want exactly what we pay for. Second, we must keep in mind how much space we have for storage. Third, we buy the quality for our specific preparation needs.

Foods are bought to satisfy our preplanned menus. You must set standards for your purchases and specify exactly what you are ordering. In this way you will avoid the disappointment that comes from getting some food you may not be able to use. For example, you might have french-fried onion rings on your menu for today. When you place your produce order, you say to the salesman, "50 pounds of onions, please." He sends one bag of medium or small onions, as he guessed you wanted them mostly for seasoning. Now you will be quite upset, because you got the wrong kind of onions, but you got exactly what you ordered. You can blame no one but yourself. In this instance, you should have ordered 50 pounds of yellow, large, Spanish or Bermuda onions, and you would have had what you needed for your menu. It is easy to see that to avoid disappointment you must spell out what it is you need. Leave no area for misunderstanding or guesswork. When you are ordering, you must state:

1. The name of the product
2. Quantity or weight
3. Size of individual item
4. Type or grade
5. Color (when needed)

You will find that orders will vary according to your need, the size of the operation, and the amount of storage space available. It is best to order certain foods or service goods daily, such as vegetable produce, dairy products, and pastry. Paper products may be ordered less frequently, as storage does not harm them.

TODAY'S ORDERS
1. MEAT
A.
B.
2. FRUIT

"Lorraine, we have to place a special order for our buffet for next week."

Proper storage and handling of foods

When foods are purchased, they are either fresh or preserved. Fresh foods can be ordered from the markets in a loose state or prepackaged, in bulk or in ready-to-serve portions. These foods should be handled in such a way as to prevent the growth of harmful bacteria. Fresh food must be refrigerated as soon as possible after receiving, to keep it fresh for a longer period of time. Some fresh foods will last for only one week or less, even with proper handling and storage, while others will still be perfectly edible after a few months.

Food items are preserved in one of the following ways or by a combination:

1. canned
2. frozen
3. dried (dehydrated)
4. freeze-dried
5. pickled
6. irradiated
7. refrigerated

When we buy foods that have been preserved, we must continue to handle them properly. The package must be handled carefully so that it will not be broken. It is easy for germs to enter a package which has been broken, so care must be taken not to use the contents of a broken package.

So that the oldest foods are used first, a method of rotation is established. This will cut down on spoilage, which can occur when food is stored too long. No food should be stored directly on the floor, as this will make it easy for dirt, rodents, or insects to get into it. It is a good rule to store foods at least 6 inches above the floor on portable or stationary racks which are cleaned often.

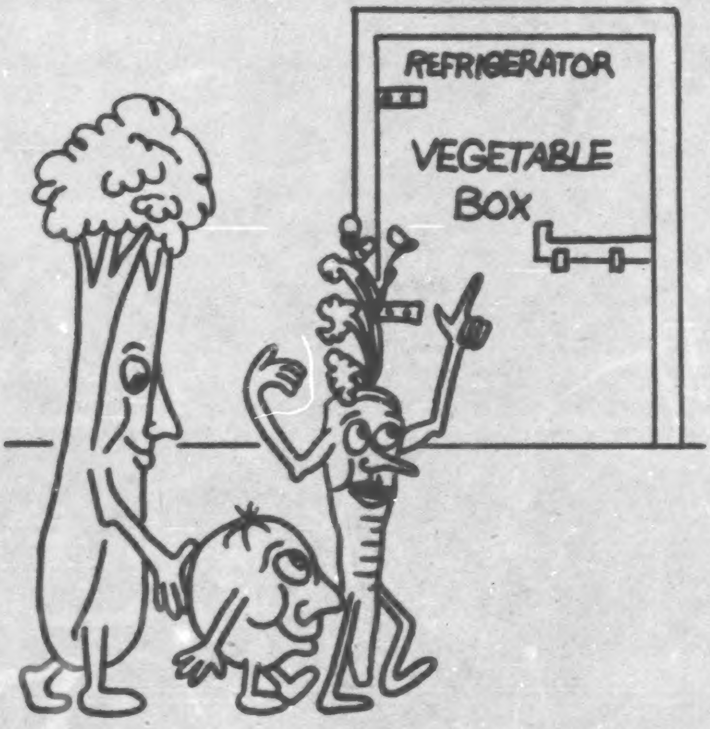
Canned foods are stored on racks in a cool, dry place. There should be enough space between the shelves to allow a person to move freely between them. This will help to make the rotation of the foods an easier job.

Frozen foods are stored on shelves in a freezer which is kept at a temperature of close to 0°F. These foods should be properly wrapped in moisture-vapor-proof material to prevent moisture from escaping and air from entering. Drying out is the main cause of "freezer burn." Freezers and refrigerators usually have air-circulation systems for rapid cooling. If the product itself (unwrapped) is exposed to this cold air, it will become dry and tasteless.

Dried and *freeze-dried* foods can be stored without refrigeration, but should be stored where it is dry and cool. Again, it is important that the package be kept intact and not broken.

Pickled foods are generally purchased in cans and will be handled like other canned goods. When these foods are purchased in bulk or large quantities, they may come in barrels or unsealed cans. The larger quantities should be stored in the refrigerator to retard spoilage and keep their flavor. Foods become pickled when they are salted or injected with a salty solution in a special process.

Radiation-treated foods are the most recent products of food-preserving technology. In this process, the food is exposed to a low level of radiation (something like X rays), which pasteurizes the food (i.e., kills bacteria). In this way, the time that foods may be stored under various conditions is lengthened.



C'mon let's go into the cooler where we belong. 'Cause if we don't, we won't be able to stand up straight!

Refrigerated foods must be properly rotated to prevent waste by spoilage. The temperature of the refrigerator should depend upon the foods being stored. If only one refrigerator is available, then the temperature most suitable is 38°F. Foods vary as to the temperature needed to keep them at their very best. Some examples are

Eggs	29°–34°F
Meats	31°–34°F
Dairy foods	31°–34°F
Most vegetables	40°–45°F

The proper operation of the refrigerator and freezer is a most important factor in the preparation of safe, healthful, and tasty foods. We should make it a habit to check the refrigerator and the freezer upon entering the kitchen. We must make sure they are working properly and keeping the right temperatures. Of course, we will use leftovers as soon as possible.

Food preparation

Foods have not always been cooked. The cooking of food was discovered accidentally by the caveman after the discovery of fire. Even today, we still eat foods that are not cooked, and some that we do cook are still eaten almost raw. Some uncooked food items found on menus today are raw fruits and vegetables. These are used in salads, and also as appetizers and desserts. Shellfish, such as clams and oysters, are sometimes served raw, too. The freshly-ground sirloin used in the making of "steak tartar" is eaten raw, prepared with an uncooked egg and with anchovies as a garnish. You must try it sometime!

HOW'S THE SOUP?
I THINK THE LOVE IS MISSING!!

Let's discuss the methods of cooking. There are two primary methods used in cookery:

1. Dry heat – baking, roasting, broiling
2. Moist heat – boiling, stewing, braising

Dry Heat

Baking is a method by which foods are cooked in an oven. It usually pertains to pastries, desserts, and, to a lesser degree, vegetables and some meats (baked ham).

Roasting is used to describe meats which have been cooked in an oven.

Broiling is done by placing the heat above the food being cooked. The finished product has less fat content, because the grease or excess fats are allowed to drip off.

Grilling is done on a large hot metal plate. It is used in cooking where little oil is used or needed, and where fast cooking is important to the service.

Barbecuing is done over hot coals or wood on a spit or grate. Usually, the food being cooked is basted with a sauce as it cooks.

Moist Heat

Boiling is the method of cooking meats or vegetables in either water or stock which is bubbling rapidly.

Simmering is cooking in water or stock at a gentle bubble, reached by bringing to a boil and then reducing the heat.

Braising is used with large cuts of meats and vegetables. It can be done in an oven or on the stove, using a heavy pot with a lid. The food is browned and then partially covered with liquid and allowed to cook slowly in a covered pot.

Stewing is used with less tender cuts of meat and is done for long periods of time. The liquid must cover the food being cooked, and the pot is kept covered.

Steaming is done when the food is cooked in a tight container over a small amount of boiling, steaming liquid.

Pressure cooking is one way of cooking foods quickly. Extra pressure is created by steam in a closed container, lessening the time needed for cooking.

Deep-fat frying is the cooking of food in a controlled hot-fat bath. Usually, the food will be coated with a dip or breading before being placed in the hot fat. As the outside of the food is browned, the inside is cooked by the steam from the moisture content of the food being fried. Most foods can be cooked in this manner.

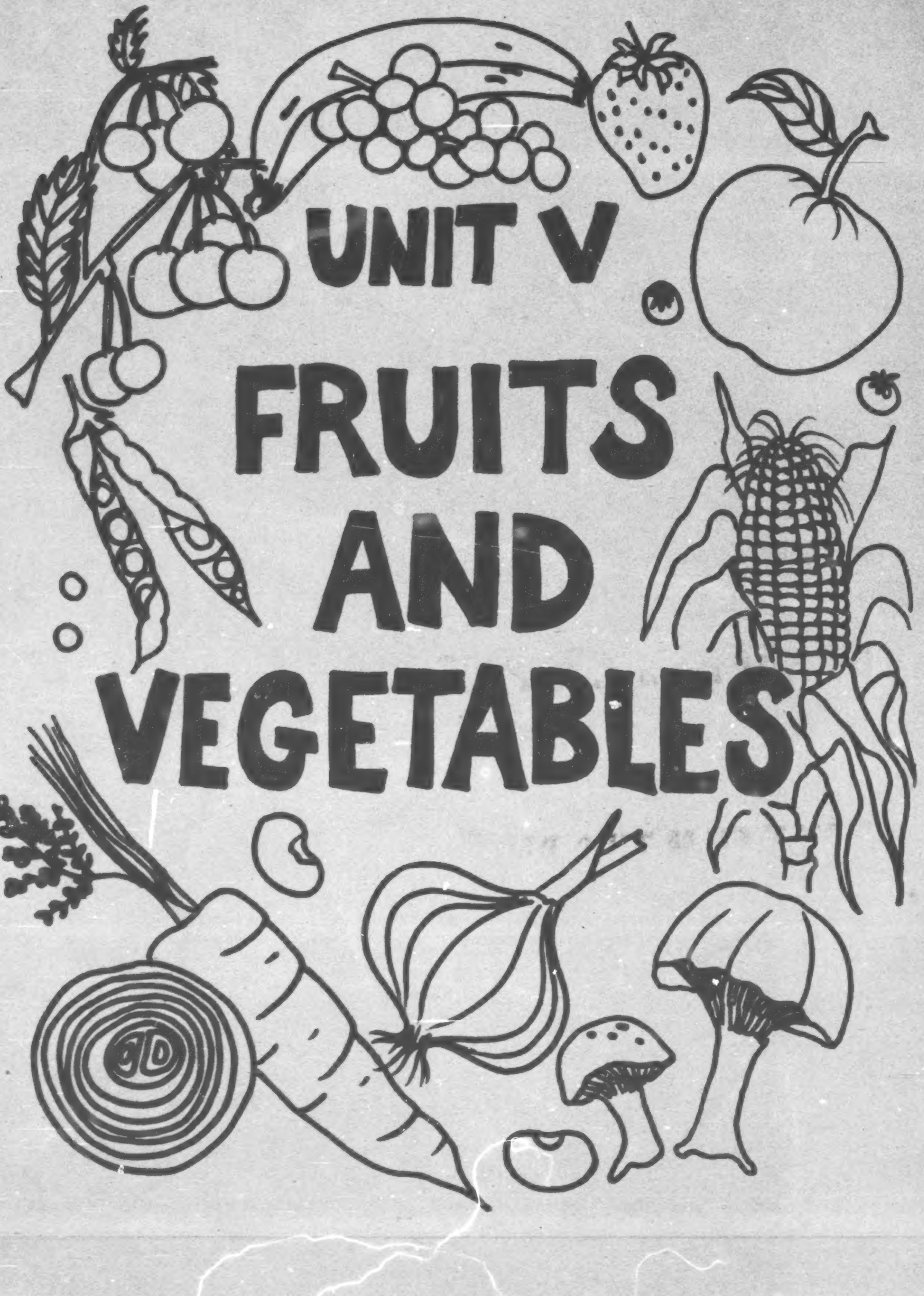
Sauteing is done when food is fried in the least amount of fat necessary to prevent sticking. The food is cooked on one side and then turned to cook the other side.

Vocabulary:

dehydrated	– dried; moisture has been removed either by sun or driers
edible	– capable of being eaten
freeze-dry	– a process by which foods are dried in a high vacuum while being frozen.
freezer burn	– a surface grayness caused by drying out of food because of improper packaging
gourmet	– a person who knows foods and drinks; also an outstandingly food food or drink
inferior	– not as good as something else
irradiation	– applying radiant energy rays to pasteurize foods
produce	– fresh fruits or vegetables
stationary	– unmovable, remaining in place, not portable
superior	– better than something else

UNIT V

FRUITS AND VEGETABLES



UNIT V – FRUITS AND VEGETABLES

Students admiring their work

Purchasing

Fruits and vegetables are purchased by standards in order to receive the desired quality. These standards are determined by the way the food will be used. When these goods are ordered, it is important to state the size or count per pound, the grade, and the type or variety needed.

As an example, the type of potato you order will depend on what you will be preparing. A potato may be waxy or mealy. The Maine potato is waxy. It is used in salads, it is boiled or steamed, and it is also used in soups or stews. The russet potato is mealy and is baked or used for french-fried potatoes. It is usually from Idaho or Long Island. Potatoes may be purchased in many forms. They can be fresh, whole, peeled, frozen, dried, mashed, or precooked. Before ordering you must know how the potato will be used. The mealy potato is more flaky when it is cooked, and so is best suited for baking, mashing, and french-frying. The waxy potato holds together better when it is boiled, and so it is used for making parsley potatoes, potato salad, or creamed potatoes. When you boil a russet or non-waxy potato, it will begin to fall apart before it has cooked completely.

Let's say that you are ordering potatoes for the baked Idaho potato you offer on your menu. You must specify to the salesman:

Count – – 100 per 50-lb. box
Grade – – #1
Name – – Russet or Idaho
Quantity – – 1 box or case
Color (when applicable)

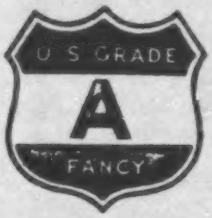
Now there should be no misunderstanding as to the type of potato you want, and there should be no problem in preparing the baked Idaho potato on your menu.

Other vegetables and fruits are to be ordered in a similar manner. For example, when ordering lettuce and watermelon, you must know the quantity you need based on how you will serve them. You might order by specifications and standards as follows:

Name:	Iceberg lettuce	Watermelon
Grade:	fancy	#1
Size or count:	24/box @ 1½ lb/head	30–35
Quantity:	2 boxes	3

Canned fruits and vegetables

Government Grades for Canned and Frozen Fruits and Vegetables



Fruits:	Vegetables:
Grade A or Fancy	Grade A or Fancy
Grade B or Choice	Grade B or Extra Standard
Grade C or Standard	Grade C or Standard
Substandard	Substandard

Grades Determined By:

Texture
Firmness
Tenderness
Cut
Consistency
Finish
Flavor
Color
Appearance
Type
Style
Density
Clearness of syrup
Drained weight
Clearness of liquor

Food Purchasing Guide

Example:

			Net wt./can	Drained weight per can
Vegetable				
Peas	A	#10	6 lb. 9 oz. (105 oz)	72 oz.
Fruit				
Peach halves	B Choice	#10	6 lb. 12 oz. (108 oz.)	68 oz. 30-40 count

Purchase of fruits

In choosing fresh fruit, the degree of ripeness, the color and firmness, and freedom from decay help you to judge quality.

The size and cost are important, but are not the only things to consider. The largest fruit is not always the best. It may lack flavor or juice.

The least expensive fruit is not always the most economical, because its yield may be less, and therefore it might be the most costly to serve. For example, a case of top-grade oranges may cost $2.50 and give you 5 pints of fresh juice at a cost of 50¢ per pint, while a lower grade may cost $2.00 per case but give you only 3 pints of juice.

Experience will be your best teacher. Once you have set your specifications, you will know which orange to pick for the greatest amount of juice, or which cantaloupe will be the best size for individual servings.

Citrus fruits (oranges, grapefruits, lemons, tangerines)

Keep best in a cool place. If the fruit is not quite ripe, store it on a rack where the air circulates freely.

Orchard fruits (apples, pears, peaches, apricots, nectarines, plums, cherries, quinces and persimmons)

Best when they are firm but not hard, when they are plump and have their natural color. The best flavored and most economical are free from decay and woody spots. They are well shaped, smooth-surfaced, and free from insect damage.

Orchard fruits must be carefully washed to remove the residue from insecticide sprays. It is necessary to sort them frequently in order to use the ripened products and to remove fruits showing spoilage. Keep them in cool storage with room for air circulation.

Tropical fruits (pineapples, bananas, avocados)

Best when purchased just before full ripening and ripened in a cool (not cold) area with good circulation.

They are ripe when firm but not hard. They are best when free from bruises and dark or moldy areas, and when they have a good natural aroma.

Vine fruits

Grapes are best when well attached to the stem with a good natural color. They should be purchased for immediate use. They should not be whitish, shriveled, moldy, or decayed at the stem end. They should be stored in the refrigerator.

Melons

Ripe cantaloupes, honeydews, and muskmelons have a characteristic aroma and yield slightly to pressure at the stem end. Watermelons are best when they have a thin skin and are not springy to the touch.

Store at room temperature, 70°F., to ripen. Refrigerate only to serve cold.

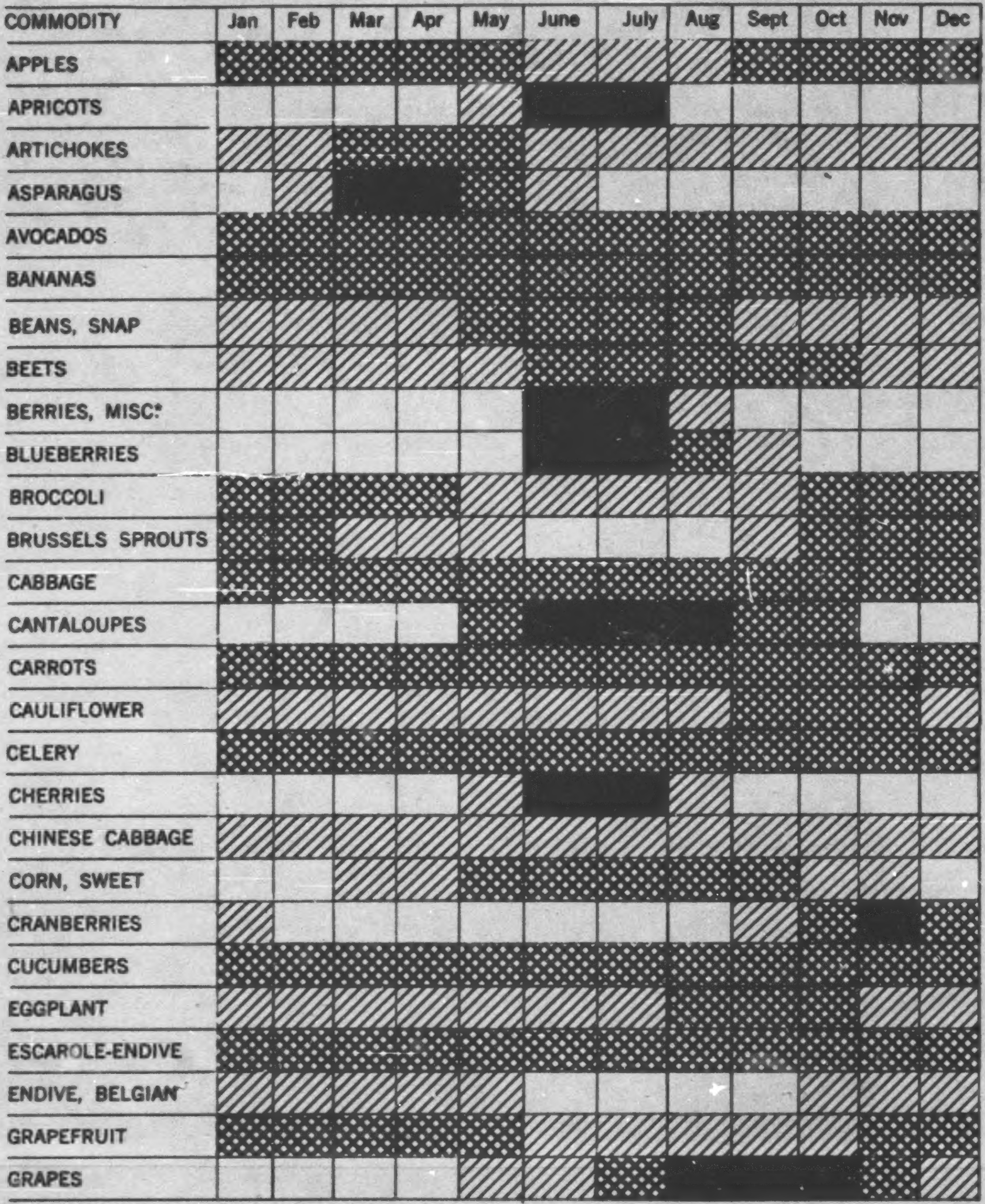
Storage

So that fruits and vegetables will preserve their good qualities, it is important to store them properly until they are served. The food operator does not always buy these items daily, so he has to protect them from spoilage and keep them in the best condition possible for his customers. Fresh fruits and vegetables should be bought as often as necessary and as storage conditions permit. They are often quite perishable and must be stored and handled accordingly. It is also important that they be sorted and inspected before storing.

FRUIT AND VEGETABLE AVAILABILITY

This chart shows when common fruits and vegetables are in supply.

□ Means supplies are scarce or nonexistent.
▨ Means supplies are moderate.
▩ Means supplies are plentiful.
■ Means supplies are exceptionally abundant.



COMMODITY	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
APPLES	▩	▩	▩	▩	▩	▨	▨	▨	▩	▩	▩	▩
APRICOTS	□	□	□	□	▨	■	■	□	□	□	□	□
ARTICHOKES	▨	▨	▩	▩	▩	▨	▨	▨	▨	▨	▨	▨
ASPARAGUS	□	▨	■	■	▩	▨	□	□	□	□	□	□
AVOCADOS	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
BANANAS	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
BEANS, SNAP	▨	▨	▨	▨	▩	▩	▩	▩	▨	▨	▨	▨
BEETS	▨	▨	▨	▨	▨	▩	▩	▩	▩	▩	▨	▨
BERRIES, MISC.*	□	□	□	□	□	■	■	▨	□	□	□	□
BLUEBERRIES	□	□	□	□	□	■	■	▩	▨	□	□	□
BROCCOLI	▩	▩	▩	▩	▨	▨	▨	▨	▨	▩	▩	▩
BRUSSELS SPROUTS	▩	▩	▨	▨	▨	□	□	□	▨	▩	▩	▩
CABBAGE	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
CANTALOUPES	□	□	□	□	▩	■	■	■	▩	▩	□	□
CARROTS	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
CAULIFLOWER	▨	▨	▨	▨	▨	▨	▨	▨	▩	▩	▩	▨
CELERY	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
CHERRIES	□	□	□	□	▨	■	■	▨	□	□	□	□
CHINESE CABBAGE	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
CORN, SWEET	□	□	▨	▨	▩	▩	▩	▩	▩	▨	▨	□
CRANBERRIES	▨	□	□	□	□	□	□	□	▨	▩	■	▩
CUCUMBERS	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
EGGPLANT	▨	▨	▨	▨	▨	▨	▨	▩	▩	▩	▨	▨
ESCAROLE-ENDIVE	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
ENDIVE, BELGIAN	▨	▨	▨	▨	▨	□	□	□	□	▨	▨	▨
GRAPEFRUIT	▩	▩	▩	▩	▩	▨	▨	▨	▨	▨	▩	▩
GRAPES	□	□	□	□	▨	▨	▩	■	■	■	▩	▨

*Mostly blackberries, dewberries, raspberries.

COMMODITY	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
GREENS	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
HONEYDEWS					▨	▩	▩	■	■	▩	▨	
LEMONS	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
LETTUCE	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
LIMES	▨	▨	▨	▨	▨	▩	▩	▩	▨	▨	▨	▨
MUSHROOMS	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
NECTARINES						▨	■	■	▨			
OKRA			▨	▨	▨	▨	▨	▨	▨	▨		
ONIONS, DRY	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
ONIONS, GREEN	▨	▨	▩	▩	▩	▩	▩	▩	▩	▨	▨	▨
ORANGES	▩	▩	▩	▩	▩	▩	▨	▨	▨	▩	▩	▩
PARSLEY & HERBS**	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▩	▩
PARSNIPS	▨	▨	▨	▨	▨				▨	▨	▨	▨
PEACHES					▨	▩	■	■	▩			
PEARS	▨	▨	▨	▨	▨		▨	▩	▩	▩	▩	▨
PEPPERS, SWEET	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
PINEAPPLES	▨	▨	▩	▩	▩	▩	▨	▨	▨	▨	▨	▨
PLUMS-PRUNES						▨	■	■	▩	▨		
POTATOES	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
RADISHES	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
RHUBARB	▨	▨	▨	▨	■	▨						
SPINACH	▩	▩	▩	▩	▩	▨	▨	▨	▨	▨	▨	▨
SQUASH	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
STRAWBERRIES	▨	▨	▩	■	■	■	▩	▨	▨	▨	▨	▨
SWEETPOTATOES	▩	▩	▩	▩	▨	▨	▨	▨	▩	▩	■	▩
TANGERINES	▩										▨	■
TOMATOES	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩	▩
TURNIPS-RUTABAGAS	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
WATERMELONS				▨	▩	■	■	▩	▨	▨		

**Includes also parsley root, anise, basil, chives, dill, horseradish, others.

Information courtesy of United Fresh Fruit and Vegetable Association, Washington, D.C.

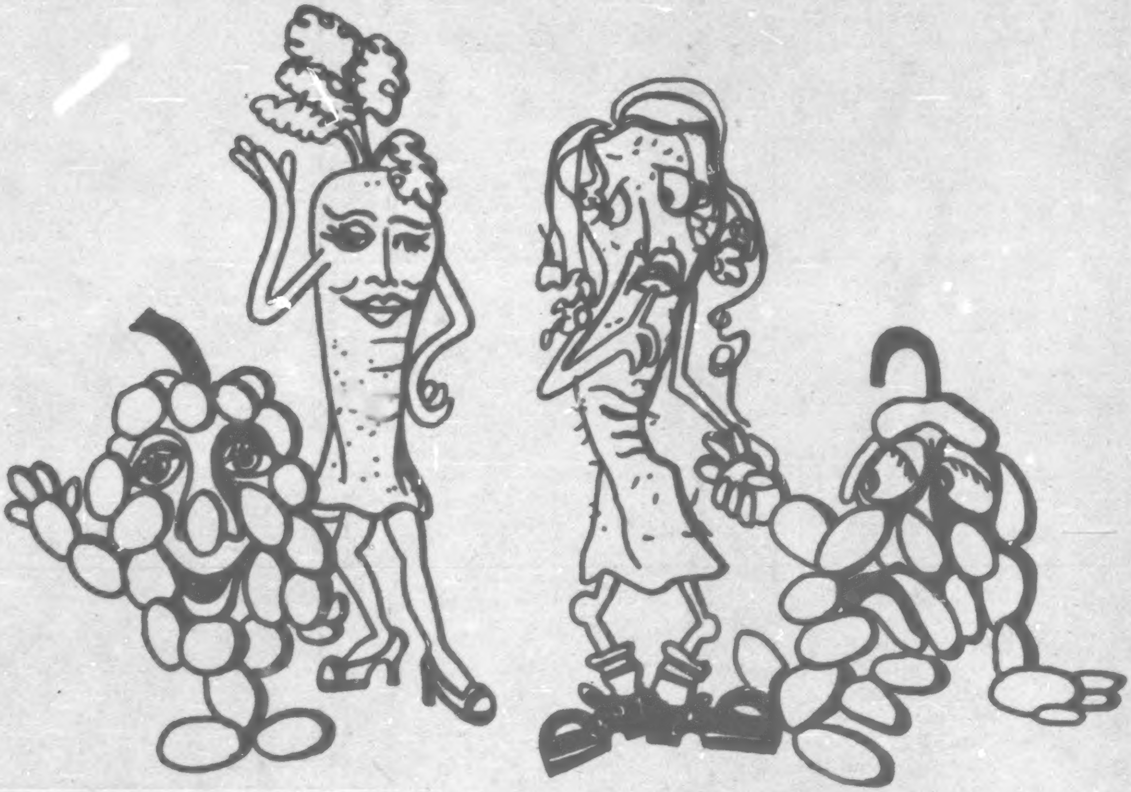
Fruits should not be washed before storing, especially berries and grapes, which have thin skins and bruise easily. Many of the common fruits can be stored in the refrigerator in a covered container (hydrator), to cut down moisture losses. These fruits are, to name a few, ripened peaches, apples, citrus fruits, and pears.

Some fruits should not be stored in the refrigerator, but they may be chilled before being served. These are bananas, avocados, pineapples, and melons. They store better at a medium-cool temperature – about 60°F. If they begin to over-ripen, this process can be slowed by refrigeration.

Dried fruits keep better at room temperature, but during humid weather they can be stored in the refrigerator to prevent the growth of molds.

All fruits should be washed and drained before they are prepared or served.

Canned fruits are quite popular, mainly because storage is more simple. Also, they are often less expensive when fresh fruits are out of season.



Fruits and vegetables which are attractively displayed will be sold more quickly than those carelessly prepared.

Vegetables are always better when they are fresh and crisp. As soon as they are received, they should be checked and all spoiled or wilted parts removed before storing. Be sure to use the less crisp vegetables first to prevent waste from losses.

All fresh vegetables should be stored in the refrigerator with the exception of white and sweet potatoes, dry onions, and hard-shell squash. These store best at about 50°F., and can be stored at this temperature for several weeks. Potatoes should be kept in the dark. Those fresh vegetables that are stored in the refrigerator must be tightly covered to prevent loss of moisture by the circulating air.

When vegetables have lost water and have become limp, they can often be restored by placing them in a cold-water bath. Vegetables which have been stored in the refrigerator must be checked daily; those that are losing their freshness should be used immediately, and those that have wilted or spoiled must be thrown out.

The use of canned or frozen fruits and vegetables has several advantages. Their cost is likely to be lower, and they require less labor to purchase and prepare. Spoilage is no problem. For the chef, it is most convenient to have available canned and frozen foods to help lighten the daily burden of rushed food orders.

Fruit preparation

Student displays exotic Fresh Fruit Salad Platter containing fresh fruit, cottage cheese and flavored gelatin.

Most fruits are quite delicious when they are served raw. First, wash them with cool, clean water – no soap, please! After they have been well washed, rinsed, and drained, they may be served whole, sliced, cut, peeled, or pared. They may be eaten alone or served with other foods. They are often used as a garnish or in many combinations in salads.

Fruits which are attractively served will be sold much more quickly than those which are carelessly prepared. As with most foods, you must consider both the nutritive and eye-appealing values. Colors always play an important part, and it is important to remember that some fruits will turn brown from oxidation when they are cut and left exposed to the air. These fruits are fresh apples, bananas, peaches, and pears. This discoloring can be avoided by coating the cut surface with citrus juice before refrigerating.

Apples, pears, and peaches can be prepared in various ways. They may be served raw, stewed, glazed, or baked. Berries, cherries, and rhubarb are simmered gently when they are cooked. Because of the delicate texture of the fruits, they are not boiled; also, because they have high water content, they do not need a lot of water in which to cook them.

Fruits may be sauteed or deep-fried. To be deep-fried, they are usually sliced and coated with a batter, then placed in oil at a temperature of 375°F. They are removed when they are golden brown and crisp, and may be served dusted with powdered sugar or a drizzle of syrup.

Fruits are used in quite a variety of baked products. Blueberries, peaches, and apples are used in pies, pastries, and muffins. Cakes use many fruits, including strawberries and pineapples. Fruits are often found in ice cream and sherbets, jellies, and jams. When fruits are used in the making of jam, they are mashed; in the making of preserves, the fruits are in larger pieces; in the making of jellies, the fruit solids are removed.

Fruits and vegetables should be a part of our daily eating pattern. They carry vitamins and minerals; they supply bulk to the diet, and because they are colorful, they add interest and variety to any meal.

Vegetable preparation

Vegetables have always been a very important part of our daily diets. Among those people who are interested in low-fat foods with high nutrition, they are particularly popular. Most vegetables can be eaten in the cooked or uncooked form. They can be found any place on a menu, from appetizers to entrees.

All fresh vegetables must be thoroughly washed with cold water before cooking or before they are served raw. Special care must be taken in the preparation of those that are to be served raw, as larvae, live insects, or insecticide or fertilizer residues are sometimes found on the fresh vegetables delivered to the kitchens.

Raw vegetables for salads, sandwiches, or appetizers are carefully washed and drained. Leafy greens may be dried more quickly between kitchen cloths. When vegetables are cooked, whatever harmful foreign matter which might remain after washing will be killed in the process.

The cooking process makes some vegetables more easily digestible by breaking down a portion of the fibers that make up the edible part of the plant. Vegetables may be cooked by boiling, steaming, baking, frying, or broiling. If it is necessary to boil them, they are usually cooked in salted preboiled water which is quickly returned to the boil. They must be cooked as quickly as possible to keep the color and nutrients. When the vegetable is to be served whole, it should be turned and tested carefully and removed as soon as it is done. The liquid remaining after the vegetable is cooked is often used on the steam table to prevent the vegetable from drying out, or it may be used in soups or sauces if the smell is not too strong.

Some vegetables can be cooked in the skin, like the potato, but the skin is removed before serving, unless it was baked. The beet is usually cooked in the skin, then the skin is slipped off before serving.

There are eight basic groups of vegetables. This list contains the most common vegetables – there are others.

1. Roots: carrots, parsnips, beets, radishes, turnips, rutabagas
2. Tubers: potatoes, sweet potatoes
3. Bulbs: onions, garlic, leek, chives
4. Stems: celery, rhubarb, asparagus, kohlrabi
5. Fruits: cucumbers, tomatoes, squash, pumpkin, eggplant, peppers, snap beans, okra
6. Flowers: cauliflower, broccoli, artichokes
7. Seeds: shelled beans, peas, corn, chickpeas, black-eye peas
8. Leaves: cabbage, spinach, lettuce, romaine, brussels sprouts, parsley, scallions, mustard greens, beet greens, turnip greens, kale, collards, chicory, escarole, chinese cabbage

Mushrooms are a fungus and have not been listed, although they are eaten as a vegetable. They are used mainly for lending flavor to other foods.

When using the boiling method of preparation, follow these general rules to speed up cooking times and to prevent the development of strong flavors in vegetables:

Cover mild-flavored white and yellow (or orange) vegetables during cooking (potatoes, corn, squash, and carrots).

Do Not Cover strong-flavored white, yellow (or orange), or green vegetables during cooking. (Asparagus; green or wax beans; broccoli; brussels sprouts; cabbage; cauliflower; greens (including turnip, mustard, collards and kale); okra; onions; parsnips; white turnips; and rutabagas).

Most vegetables should be cooked in a small amount of water. Some, such as spinach, summer squash, and tomatoes, need be given only a little water to start before they release their own juices. Others, which require short periods of cooking, such as broccoli, peas, snap beans, or asparagus, will need somewhat more water. This water is quickly returned to the boil, and the vegetable is cooked as quickly as possible.

Those vegetables which are strong in odor and flavor, such as cabbage, onion, cauliflower, and brussels sprouts, should be cooked uncovered in large quantities of water. This will allow the unwanted gases to escape gradually as the cooking process takes place. The vegetables which are high in starch content such as lima beans and potatoes, should also be cooked in plenty of water, to prevent sticking and to lessen the possibility of burning.

Red vegetables such as beets and red cabbage lose their bright color when they are cooked, but the addition of a weak acid such as vinegar or lime juice will help to keep the colors bright.

Steaming vegetables over boiling water is a good way to prevent the loss of important vitamins and minerals. Care must be taken to prevent overcooking, however. There will be some loss of color in steaming green vegetables.

Panning (braising) uses a little fat and the vegetable's own juices. A tightly covered heavy pan holds in the steam and prevents burning. This method is often used for shredded cabbage, kale, spinach, okra, summer squash, and snap beans. Panning retains color, flavor, and nutrients well.

The dryer the method of cooking vegetables, the less chance there is to lose vitamins and flavor. Some vegetables which are easily baked or fried are tomatoes, squash, eggplant, potatoes, onions, corn, and carrots.

Vegetables which are purchased frozen should be cooked as quickly as possible according to the directions on the package.

Regardless of the cooking method used, vegetables should be cooked only until just "done," or tender. If kept hot on a steamtable for 20 minutes or more, vegetables will continue to cook, so it is important to make sure vegetables arrive at the steamtable slightly on the underdone, or crisp, side.

Summary

Fruits and vegetables should be purchased as often as possible to be sure of using them when they are freshest. It is not good to store them for long periods of time. If you use produce in large quantities, it is best to order on a daily basis. When ordering, tell the salesman exactly what you want. This will keep the mistakes on your orders to a minimum.

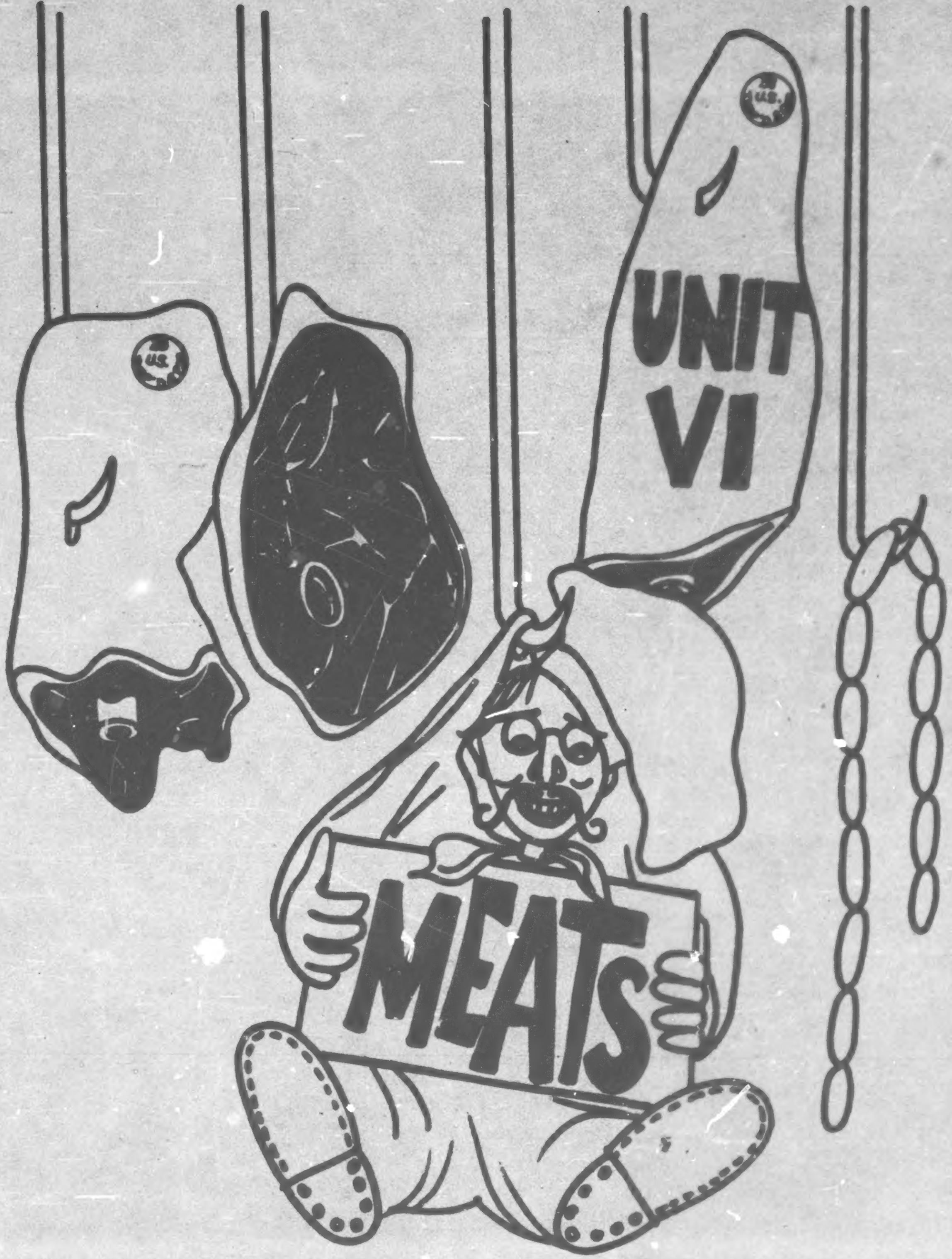
Fruits store better and keep longer when they are handled properly. The storage temperature varies with each group of fruit. Fruits should not be washed before storage, but must be washed and drained before being prepared for service. Canned fruits are popular because they store easily.

Vegetables are better when served fresh and crisp. They store well at 40°F. to 45°F., with the exception of potatoes, sweet potatoes, onions, and mature squash, which should be stored at around 50°F.

Frozen fruits and vegetables play an important part in our food services today. Because they are wholesome and colorful, they add interest and variety to any meal.

Vocabulary

consistency	–	degree of firmness or density
density	–	the weight of something compared with its size.
larva (plural, larvae)	–	the early form of an insect, before it passes through the stages which turn it into an adult insect.
oxidation	–	combining chemically with oxygen. Oxidation is what makes foods turn brown from being exposed to air, like bananas, peaches, and apples.
quality	–	Degree of goodness; a way of classifying a product. Usually, a person looks for good to excellent qualities.
quantity	–	an amount, a number; how much or how many.
residue	–	something that remains; something left over
standard	–	something set up and established by an authority as a rule for the measure of quality, weight, value, or quantity.


US.
US.
UNIT
VI
MEATS

UNIT VI – MEATS

Serving hot:
Roasted Top Round of Beef – au jus
Yorkshire Pudding
French Fried Eggplant

Purchasing

Meat can be defined as the edible parts of fleshy carcasses of animals, including parts of the intestines of some animals. It supplies much of our nutritional needs, such as vitamins, minerals, and fats. Our menu cycles and indeed most of our meals are planned around meat.

A good menu cycle should begin with good quality. The United States government has provided guidelines and laws that give us some idea of the quality of meat we are getting compared to the quality we wish to establish.

Certainly we don't want hamburgers that are large before cooking but small after cooking because they contain too much fat.

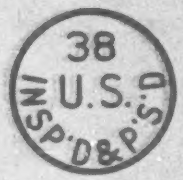
Government regulations are established to do the following:

1. to protect the public by eliminating diseased or otherwise unfit meat;
2. to enforce the sanitary preparation of meat and meat products;
3. to guard against the use of harmful ingredients;
4. to stop the use of false or misleading names or statements on labels.

These regulations apply only to companies that ship from one state to another state, or to a foreign country. They also apply to any company that wishes to have government inspection, even though they may ship meats only in the state in which they are located. It was hoped that each state would establish similar laws for operations within its own state. Few states have done this as of this time, but the list is slowly growing.

The Meat Inspection Division of the Consumer and Marketing Services performs the following services (among others):

1. Examination of food animals, including cattle, sheep, swine, goats, and horses, before slaughter, to eliminate animals with diseases or other unwholesome conditions.
2. Thorough examination of animals after slaughter for the same purpose.
3. Guarding against residues in meat from pesticides, chemicals, growth-promoting substances, drugs, or biological substances.
4. Destruction, for food purposes, of all diseased, unsound, or otherwise unwholesome meat and meat-food products.
5. Supervising the preparation of meat and meat-food products to assure their cleanliness and wholesomeness during their preparation into articles of food.
6. Guarding against the use of harmful preservatives and other undesirable ingredients.
7. Application of marks to meat and meat-food products to show that they are "U. S. Inspected and Passed."
8. Supervising the application of informative labeling, and preventing the use of false and deceptive labeling on meat and meat-food products.
9. Inspection of meat and meat-food products being imported into this country.
10. Developing methods for humane slaughter of meat animals.

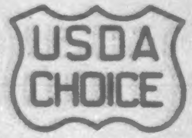


Government grading

Products, to be eligible for grading service, must be prepared under Federal Inspection or other official inspection. Grading is quite different from inspecting for wholesomeness and freedom from disease or an unwholesome condition.

Grade denotes:

a. Conformation – form and structure; ratio of meat to bone
b. Finish – color; ratio of fat to lean (marbling)
c. Quality – overall appearance, judgment of eating qualities



Meat Grades

Beef	Pork	Veal and Lamb	Mutton
Prime	U. S. #1	Prime	Choice
Choice	U. S. #2	Choice	Good
Good	U. S. #3	Good	Commercial
Standard		Commercial	
Commercial			

Storage

Meats may be stored by refrigeration, freezing, canning or some of the newer methods, such as freeze-drying.

Although we are mainly concerned about storage to meet the needs of the menu cycle, it is helpful to be aware of the proper methods for all kinds of meat storage.

Fresh meat and table-ready meat may be stored for short periods (several days) at temperatures just above freezing. Ground meats and meats that have been mechanically tenderized are more likely to spoil than roasts, steaks, and chops, because a larger surface area has been exposed to possible contamination from the air, food handlers, and equipment.

Meat becomes rancid, or spoiled, because of the oxidation of its unsaturated fats. The oxidation of pigments (all things are colored by different kinds of pigments) in meat causes discoloration. The meat goes from bright red to dark reddish-brown. Since low temperatures slow down these changes and inhibit bacterial growth, meat should always be held in the coldest part of a refrigerator.

The fat in pork and poultry, having a larger proportion of unsaturated fat in it, is more easily oxidized than the fat of beef. That is why these meats – especially poultry – should not be held as long as beef.

Smoking or curing of meats, such as bacon, ham, and corned beef, makes these meats more resistant to the development of rancidity. They may be kept slightly longer than fresh meats.

Freezing of meat should be done rapidly, and as soon after inspection as possible. Since bacteria, yeast, and molds grow most rapidly at temperatures of 40°F. to 140°F., the meat should be frozen, preferably below 10°F., as quickly as possible. Once frozen, it should be kept frozen until ready for preparation or cooking.

Freezing will not kill all harmful bacteria, yeasts, and molds, as many people believe. It will only slow or stop their growth. When the meat is thawed out (above 32°F.) the organisms will begin to grow as rapidly as if they had never been frozen. This is the reason you should never refreeze a food product that has been thawed. Refreezing also causes a breakdown of meat's structure due to the formation of ice crystals from the thawed juices present in the tissues. This will cause a loss of flavor and texture in the finished product.

Canned meats will remain safe for a considerable length of time, as long as the meat was properly canned and the container remains intact. Once opened, canned meats are as susceptible to spoilage as any other cooked meats.

Freeze-dried or de-hydro frozen meats will keep as long as they do not absorb any water through the packaging material. Freeze-drying or de-hydro freezing is the combined process of freezing and dehydrating at the same time. Since water is removed, the meats take up less room. They will not spoil as long as they are not rehydrated (by replacing the water) or allowed to be contaminated by air, man, or machinery.

Meat must be refrigerated as quickly as possible, and once removed from the refrigerator or freezer, it should be cooked and served as soon as possible. The less time the meat is allowed to go through the dangerous contamination period (40°F. to 140°F.), the less the chance of spoilage. When refrigerated, the meat should be loosely covered. The transparent film wrappings of prepackaged meats, poultry, and fish should be replaced with looser wraps so that the surface is less moist and the growth of molds and other organisms will be slowed down.

Below is a chart showing suggested keeping times for meats under refrigeration or freezing.

In Refrigerator

1–3 days
Ground meats
Variety meats
Leftover cooked meats
Poultry
Fish, Shellfish

3–7 days
Fresh meat cuts
Cold cuts
Sliced ham
Bacon

2 weeks
Well-cured ham
Dried beef

In Freezer at 0°

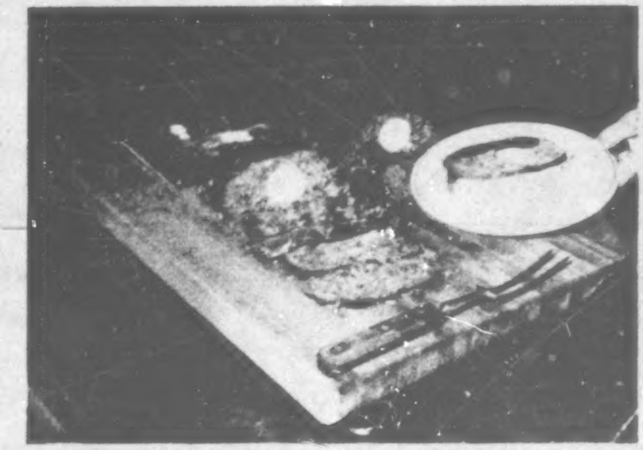
1–3 months
Ground meats
Variety meats
Cooked meats
Ham
Fish
Soups, stews, casseroles

6–8 months
Cut-up chicken
Veal
Fresh pork

12 months
Beef roasts and steaks
Whole chicken

The above applies only if the meat has been properly handled.

Preparation



Vienna Loaf –
a tasty treat when properly prepared.

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There are four basic kinds of meat. These include beef, from cattle; veal, from calves; mutton or lamb, from sheep; and pork, from hogs. Poultry is a kind of meat also, but we will discuss it later.

The quality of cooked meat depends upon the quality of the meat that was bought, how it was stored, and how it was handled when it was received. The use of the proper method in cooking will also affect the taste. A piece of meat that is properly cooked appeals to the appetite by the way it looks, smells, and tastes.

Meats are cooked in different ways depending on tenderness, size, and what cooking equipment is available. It may be cooked by dry-heat or moist-heat methods. The dry methods of cooking are broiling, roasting, and deep-fat frying. This type of cooking usually requires the more tender and juicy cuts of meat. Less tender cuts of meat need a longer cooking time to become chewable and tender, and should be cooked by one of the moist-heat methods.

Moist-heat methods yield, in every case, a well-done product. When the dry-heat methods are used with the tender cuts of meat, the meat of the finished product may vary from rare to well done. The use of a thermometer in large pieces of roasting meats will tell exactly when the desired degree of doneness has been reached.

Even the expert, with his delicate touch, cannot always determine the correct desirable doneness by pressure from his finger. Even though he may practice the touch method often, he sometimes makes a mistake. Meats which have been cooked by moist heat can be checked by inserting a fork into them. Meat is done when the fork goes into the meat easily and comes out easily.

After the cooking process is stopped, meats still hold much of the heat and will continue cooking for awhile. In order to prevent the meat from being overdone, it is advisable to remove the meat from the grill or oven slightly undercooked, by a few degrees. This is particularly important if the meat must be held for a period of time. For example, suppose you were working the broiler station and you had an order for lamb chops, medium. Well, you have to consider how much time will pass between the time you remove the chop from the broiler and the time the customer will be cutting into the chop. If you remove the chop from the broiler at the exact moment the chop is medium, it will continue to cook, and the customer will find the "medium" chops he ordered quite well done and probably dry. So, to be sure that the customer will get the lamb chops medium, you must remove them from the broiler at slightly medium-rare – quite pink, but not rare, inside. Experience will teach you the best time to remove an order from the oven. This will depend upon the particular kitchen facilities and whether there is plenty of help. The type of service which is given will be a factor, and so will the location of the kitchen in reference to the dining room.

In the case of a rib roast or a large roast of any kind, remove it from the oven about 30 minutes before you cut it so that the meat will set or firm. This will make carving much easier. Keep in mind also that if the meat is to be held on a steamtable, or if it will be served the following day, it is best to undercook it by about 10°F. This will also prevent additional shrinkage. The lower the temperature used while roasting, the less will be the shrinkage.

Dry-heat methods

1. Broiling

Meats suitable for broiling are the more tender cuts, such as lamb chops, ham steaks or bacon, tender beef steaks, and hamburger patties. This method is the only one that uses direct heat. In oven broiling, the heat-source is at the top, while in charcoal broiling the heat comes from below. Meat which is cut 1 to 2 inches thick is best suited for broiling. Bacon is broiled only when it is necessary to remove most of the fat. Thin cuts of meat will dry out when broiled.

Many people like broiled meat because as it cooks, the fats melt and are drained off. A good flavor can be acquired without the addition of salt or other seasonings. This is a good thing for some people on special diets. There are several types of marinades which can be used to increase the flavor or to promote an unusual flavor. Meats to be broiled should not be salted before cooking, as this draws the juices to the surface. This, in turn, prevents browning and causes a dryer finished product.

The broiler should always be preheated to insure the best and most uniform cooking. Through experience you will learn to judge the best distance from the heat for a particular cut and thickness of meat. The distance could vary from 2 to 5 inches, depending on the type of broiler, the amount of heat it puts out, and the length of time you want to cook the meat.

To prevent some meats from curling, it is a good idea to make small cuts just through the outside fat and into the outermost tissue before cooking. This will allow the meat to be cooked evenly and to look better for service.

Meat that is broiling should be turned as few times as possible. This can be only once, if temperature and distance are under control. If the temperature is too high, you may have to turn one piece of meat as often as 10 times to prevent burning or overcooking. Just think of how much time and energy can be wasted if a broiler is working at the wrong temperature.

2. Pan-broiling or griddle broiling

Thin, tender cuts of meat remain more juicy when pan-broiled. Even meats that are suitable for oven-broiling can be pan-broiled. Meats cooked this way are put into a pre-heated heavy pan with *no* fat or water added, and are left uncovered to cook. As the fats drain, they are poured off. Pan-broiled meats are more flavorful than oven-broiled, and also less dry. The lack of time and space, however, makes this method impractical in many cases.

3. Frying

Pan-frying (or sauteing) and deep-fat frying are often-used dry-heat methods. For pan-frying, a *small amount* of fat is used – just enough to prevent the food from sticking to the pan. You may let the fat from the meat accumulate, or you may pour off the excess as it becomes necessary. Small, thin pieces of meat and leftovers are often pan-fried.

Some meats have enough fat to fry themselves, while others must have fat added. You will see that foods cooked this way can be floured or breaded, giving a delicious and outstanding taste. While fats make foods more tasty, the addition of fats also makes foods less easy to digest. If the leftover fat is not used for a sauce, it can be thrown out. Food cooked this way must still be turned, but as little as possible. The pan should not be covered, as this will cause steam, and then you would be using moist heat.

Deep-fat or french frying is the method used when the meat is completely covered by hot oil. The time needed to cook by this process is short, because the cooking is taking place on all sides of the meat at the same time. There is no need to turn the meat, and when it is done the food will usually float to the top.

Meat items to be french fried may be dusted with flour, breaded, or coated with a dip. Usually a wire basket is used to lower and remove foods from the deep fat. Today, most fryers have automatic thermostats to control the temperature of the fat. When there is no controlling device available, a frying thermometer should be used. In this way the fat can be heated to the best temperature for a delicately browned product. The right temperature will vary from 300–375°F., depending on the size and thickness of the food, the coating and how fast it will brown, and whether the food is cooked or uncooked before frying.

It may be difficult to understand why this method is considered a dry method of cooking. First, you must realize that fats and oils have no water in them at all. What happens with french frying is this. The heat from the fat is so very great that it actually seals the meat and its coating (if it is breaded). This causes the food to steam-cook itself with its own self-contained moisture. This seal locks out the fat, so that it does not actually enter the meat. Be very careful never to get water or moisture into hot fat. If you do, hot fat will spatter all over and can cause severe burns. (Boiling fat is much hotter than boiling water!) When the coating does break, as it sometimes does, the moisture is released into the hot fat, causing much sizzling and bubbling. This sizzling and boiling can be stopped only by allowing the oil to cool.

4. Roasting

Roasting is generally done in the oven, where the temperature has been pre-set for the type of meat to be roasted. The varieties of meats which can be roasted are many. The cuts of beef which can be successfully roasted are rib roast, top round, rump roast, and whole loins. Some veal and lamb cuts which are roasted are center-cut, rump, loin ribs, breast and shoulder cuts, and whole leg. Cuts of pork for roasting are fresh, smoked, or cured hams, loins, and shoulder cuts.

Meats which are to be roasted may be seasoned, if desired, before, during, or after cooking. The seasoning may be injected, or, as is often done, the meat may be pierced at different places and stuffed with the herbs. Meat to be roasted is generally placed on a rack in a pan or tray with the fat side up to allow for self-basting. A meat thermometer should be used to tell when the roast is done. The thermometer is placed in the center of the largest muscle, being careful not to place it too near bone or in fat. Bone or fat would give you a false reading on the thermometer.

The most important rule is to use the lowest temperature possible. Of course, it is important also to do a satisfactory job within the necessary time. No water is to be added, nor should the meat be covered. Use the thermometer and avoid guesswork. The oven temperatures for roasting range from 275° to 325°F. The lower temperatures are used for larger cuts of meat to allow the inside to cook and the browning to take place more slowly.

Oven roasts will carve better if left to set for 20 to 30 minutes. This will give you a more attractive serving, with better yield and fewer scraps.

Moist-heat methods of cooking:

Moist-heat cooking methods are used with large and less tender cuts. Heat and moisture, combined with a long cooking time, work to break down the connective tissues in the meat. It is in this way that the meat becomes more tasty and easier to chew.

1. Boiling and stewing

Boiling and stewing are often used with meats which need to be made more tender. Bring the meat and liquid mixture to a rapid boil, reduce the heat to simmer, and cook gently covered, for a few hours. The reason for this is that the protein in meat quickly toughens at excessively high temperatures. We would be working against our purpose to keep the pot at full boil, and of course we would also increase the chance of burning the food if the liquid boiled away. Boiling also increases shrinkage. Boiling and stewing are so close in description that we will use them in the same sense. Stewing, however, generally refers to meats that are cut up and cooked with vegetables.

Meats that can be cooked in this way include beef shank, plate, brisket, heel of the round, neck, corned beef, and rolled flank steak. Pork products cooked this way are smoked butts and picnics. Fresh hams and spareribs are often treated this way, especially when they will be used as part of another dish. Veal may be cooked by simmering, but this is used mainly to obtain stock. Veal and lamb which require moist cooking will usually use the method of braising.

Beef cubes are usually browned before stewing, while lamb and veal are not. Other cuts of meat which are not browned before cooking are smoked pork cuts and corned beef. These last types are usually cooked in large quantities of water to which spices have been added. As the meat cooks, it absorbs the flavor of the spices, and so the meat is made more pleasant to the taste. The stock from corned meats is not usually reusable, as it is usually too salty, but the stock from other meats which have been simmered is most valuable and may be used in soups or sauces or as base liquid for cooking vegetables.

In stewing, the meat is completely covered with a liquid and cooked in a tightly covered pot. The liquid is seasoned as desired. If the meat is to be served cold, then it may be cooled in the liquid. This cooling should be done as rapidly as possible to preserve the highest quality of the meat and prevent the growth of bacteria. Since the amount of liquid will be less after simmering, it is also important not to add any salt until near the end of the cooking process. If vegetables are added, they may be added also near the end of the cooking cycle, in just enough time so that they will be cooked when the meat is done. A sauce or gravy may be made from this stock after the meat and vegetables are cooked. Be sure to remove the meat and vegetables before adding the thickening agent. The sauce is allowed to simmer again for a short time, and then you may need to correct the seasonings to taste.

2. Braising

Less tender cuts of meat from beef, veal, lamb, and pork are best suited for braising. Beef cuts include cross-cut shanks, brisket, plate, short ribs, and pot roasts. Arm, blade, rump, and bottom round are included in the pot roasts. Veal cuts which are braised are breast, steaks, neck pieces, and cubes. The lamb cuts are similar to the veal. Pork cuts to be braised are spareribs, chops, tenderloin, shoulder, hocks, feet, and tails.

Braising is done in two main steps. The first is to brown the meat evenly on all sides. The second is to partially cover the meat with liquid in a deep pot. If the meat being used does not have enough fat of its own to brown itself, the additional fat must be used to prevent sticking. To improve the color and flavor, tomatoes or tomato paste may be added toward the end of the browning. The vegetables used for flavoring may also be added at this time. Flour is then dusted on the meat and vegetables, and a roux is thus made to thicken the sauce. After the flour has absorbed the fat, add enough liquid to half-cover the meat. The proportion used to thicken is about 1 cup of flour to 3 quarts of liquid.

Cover the pot tightly and simmer until meat is done. The meat should be turned at least once, so that all sides will have cooked directly in the liquid. Meats may be braised on top of the range or in a moderate oven, where less evaporation will take place. Allow to set for 30 minutes before slicing and serving.

In both stewing and braising, additional liquid may be needed, depending on the amount of moisture that escapes. The finished product will be well done. Moist heat and long simmering change a less tender cut of meat to a more tender and appetizing one. Braising and stewing are the two basic methods of moist heat cookery.

Summary

Proper cooking methods should be used to insure tender, juicy portions. Know your meats and use them properly to satisfy the customer and save money.

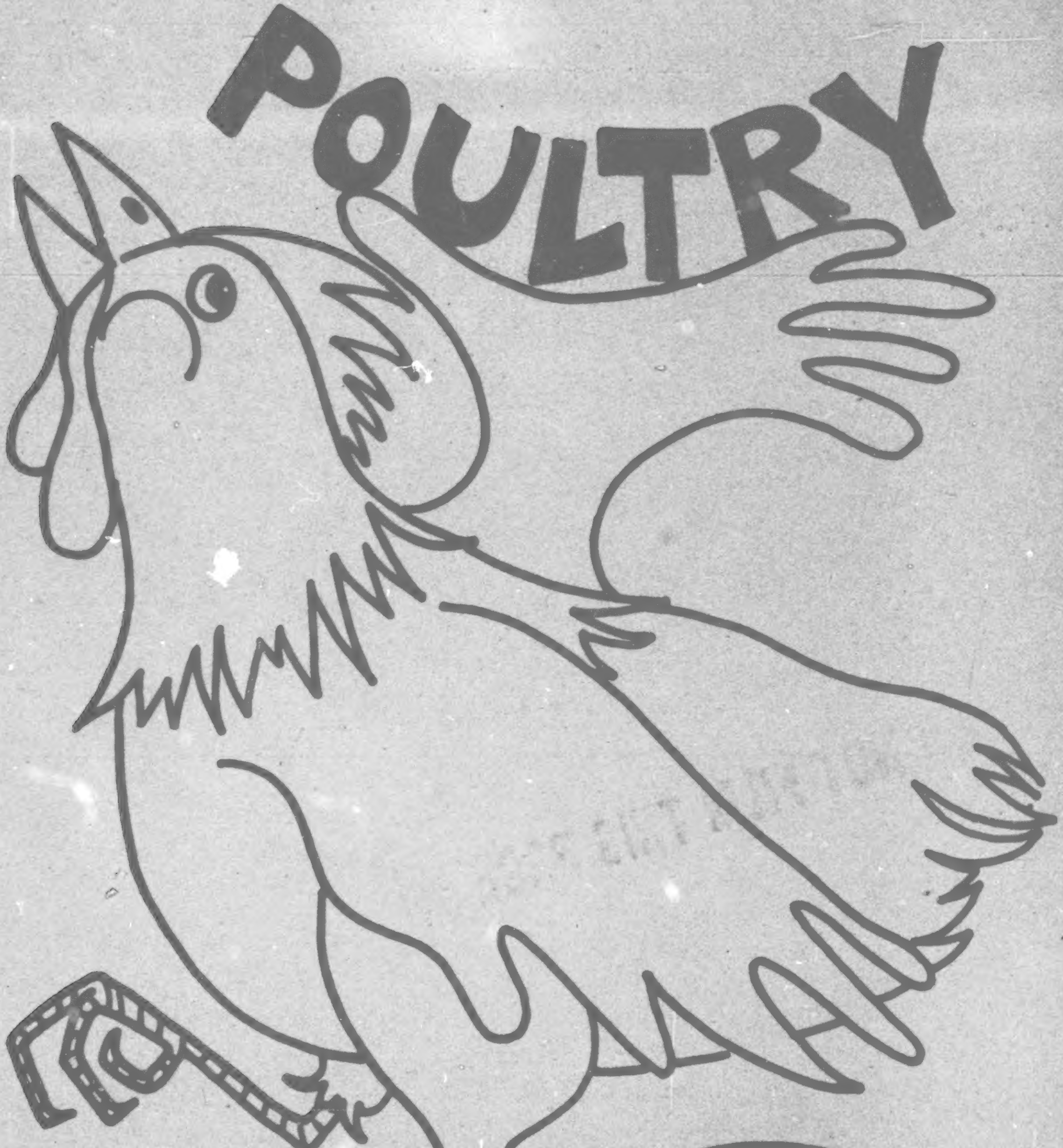
Vocabulary

beef	– meat from beef steers or heifers (1½–2½ years old.) Beef is consumed more than any other meat in the United States.
boil	– to cook in a liquid with the heat so high that the liquid is tumbling rapidly. (Water boils at 212°F. or 100°C.)
braise	– to cook in an oven or over direct heat, tightly covered, in a small quantity of liquid and at a low temperature. Usually, the meat is seared before braising to seal in the juices, to brown the meat, and to give richness of flavor and color to the meat and sauce.
broil	– to cook on a rack under direct heat source.
carve	– to cut meats for serving. A very sharp knife should be used to carve thin slices of meat. Most meats are carved across the grain. If cut with the grain, meats are usually stringy and tough. It is embarrassing to ruin a piece of meat while carving, but practice makes perfect.
contaminate	– make unfit for use by introducing something harmful
deep-fat fry (french-fry)	– to cook a food item by completely covering it with hot fat. Most french frying is done in fat where the temperature is 325°F. to 375°F.
dry-heat cooking	– cooking without adding moisture. Dry-heat methods include broiling, frying and roasting or baking.
evaporation	– Loss of moisture as it goes off into the air. Where there is air motion, evaporation takes place more rapidly.
lamb	– the meat from a young sheep; the carcass usually weighs between 30 and 45 pounds. The average weight is 35 pounds. The meat is a pale pink color. The wholesale cuts are the leg, loin, rack, breast, shoulder and shank.

moist-heat cooking	– cooking with added liquids. Methods include braising, simmering, and stewing.
mutton	– sheep which are over 20 months of age; it is no longer possible to remove the foot at the break joint.
pan-fry	– to cook in a pan with just enough fat to lightly coat the pan to prevent sticking.
pork	– the meat from hogs, with an average weight of 150–200 pounds. The carcass is usually divided into five main cuts (head, shoulder, loin, belly, and ham). Young pigs weighing from 30 to 60 pounds may be roasted whole.
roux	– a thickening agent made of flour and hot fat.
roast	– to cook meat in an oven, uncovered.
saute	– to fry in a small amount of fat
shrinkage	– the act of losing weight or volume. Shrinkage often takes place by evaporation during storage or cooking processes.
simmer	– to cook in liquid at a temperature just below the boiling point (200°F. or 93°C.).
stew	– to simmer foods in a liquid for a lengthy time; it is a moist method of cooking. A lid is used to hasten the cooking process and preserve flavor.
stock	– the liquid in which meat, poultry, fish, or vegetables have been cooked.
veal	– a calf which is not over 3 months old; the weight range of the carcass is from 110 pounds to 190 pounds. Veal is a very tender meat. The wholesale cuts for veal are round, loin, rib, breast, shoulder and shank.
well done	– when a food item has no trace of rawness, and is tender. If the product is meat, there should be no trace of blood.

POULTRY

UNIT VII



UNIT VII – POULTRY

To garnish means to decorate, enhance, and glorify. Always strive to improve the eye-appeal in food service.

What is poultry?

The name "poultry" refers to all domesticated edible birds sold in our markets. Wild birds (game birds) are not usually included.

The word "fowl," which is sometimes incorrectly used to refer to poultry, refers to full-grown hens.

Some of the different kinds of poultry are listed below.

Turkeys	are truly American, having been found in the forests of New England by our first settlers. This bird had the honor of being the main course at the first Thanksgiving dinner. Turkeys have been tremendously improved by breeders and are now an important source of meat in the American diet.
Chickens	have been raised for consumption for a considerable length of time. King Henry VIII of England was thought to be especially fond of chicken. Chicken is, of course, the most popular type of poultry consumed in this country.
Duck	meat is all dark. There is less meat in proportion to bone than in the other forms of poultry.
Squabs	are very young pigeons of either sex that have never flown. They are especially fed to produce a meat that is extra tender and light in color.
Cornish hens	resemble the chicken in appearance, but have all white meat and are considered to be a "glamour" bird.
Geese	have all dark meat like the duck, but they contain a much higher percentage of fat.

Guineas are related to the pheasant (a game bird) but are domesticated in most parts of the world. They are extremely colorful and agile birds. Their flesh is darker than that of chicken and they have a flavor similar to that of wild game.

Purchasing poultry

To present the best foods available for our menu cycles, we suggest using the guidelines and inspection regulations as set forth by the United States Department of Agriculture.

The U.S. inspection stamp must appear on all ready-to-cook or cooked poultry products intended for interstate commerce (shipment from one state to another). This is a guarantee by the United States Department of Agriculture that the meat is wholesome, processed in a sanitary manner, and inspected by trained personnel to make sure it is fit for human consumption.

The United States Department of Agriculture grades poultry as follows:

U.S. Special or U.S. Grade A.A.
U.S. Prime or U.S. Grade A
U.S. Choice or U.S. Grade B
U.S. Commercial or U.S. Grade C

The grading is based on shape of the bird, distribution of fat, condition of the skin, and general appearance. Here are some details on what to look for when you purchase poultry.

1. Turkeys

Baby turkeys – Young turkeys, under 16 weeks old, that are lightweight (4 to 8 pounds), very tender, and have a soft, flexible skin. They can be roasted, broiled, or fried.

Young hens – A young female turkey, usually less than a year old, with soft, flexible skin and breastbone. Hens are bred in two types: lightweights (6 to 10 pounds) or heavyweights (12 to 16 pounds). The larger ones have more meat in proportion to the amount of bone. They are best when roasted or boiled.

Young toms – Young male turkeys less than a year old with tender meat. The lightweight breeds run 12 to 16 pounds and the heavyweight breeds run 18 to 30 pounds. They are usually roasted, but breast meat can be cut into steaks for sauteing or broiling. The young tom can also be boiled and used for sandwiches, salads, and entree items using cut-up poultry.

2. Chickens

Fryers and Broilers – Very young chickens of either sex, usually under 16 weeks of age. Fryers generally weigh 2 to 3½ pounds, and broilers 1½ to 2 pounds.

Roasters – Young chickens of either sex, averaging 5 to 9 months of age. Very tender, weighing 3 to 5 pounds on the average.

Hens (fowl) – sometimes called stewers. They are mature, have laid eggs for one or more seasons, and are usually over 10 months of age. The flesh and skin are tough, so they must be cooked by moist-heat methods and used for salads or dishes such as chicken a la king. They weigh an average of 4 to 6 pounds. They are a source of excellent chicken stock.

Capons and caponettes – castrated young male chickens, 8 to 10 months old. They are unsexed at about 6 weeks and specially fattened to produce a large, well formed breast. The average weight is 5 to 8 pounds. Capons are unsexed by physical means and caponettes by chemical means.

3. Ducks

Long Island and Western are terms used to refer to the way the ducks were grown and fattened. Long Island ducks are force-fed and marketed when they reach 4 to 6 pounds. Western ducklings are not force-fed and are not as tender nor as fat as Long Island ducklings.

Storage

All poultry will spoil quite rapidly. Spoiled poultry develops an odor that will be immediately recognized as unsafe.

Fresh poultry should be refrigerated as soon as it is received, and packed in crushed ice when placed in the refrigerator. Frozen poultry should be kept frozen until needed. Then it should be thawed until pliable – if possible in the refrigerator. A well-wrapped bird can be thawed under running water. Try to purchase poultry just before it is to be used, and if there is ever a doubt in your mind as to its freshness, throw it out.

Preparation

The most common types of poultry are chicken, duck, and turkey. Some food operators, however, offer Cornish hens and game birds.

It is no longer common to purchase poultry slaughtered and dressed, with only the feathers and blood removed. When it is purchased this way, it is called market- or New York-dressed. We usually see poultry dressed in the drawn or ready-to-cook manner today, unless we go directly to the market or poultry farm. These drawn birds are not really ready to be placed in the frying pan. Drawing out the "innards" still leaves the lungs and oil sac in place. With the ready-to-cook bird, another step must be performed. The small hairs must be removed with a knife or tweezers, or they may be singed off over a low flame. The giblets are removed and washed along with the bird. The bird is washed in cool water inside and out, but it should never be soaked or thawed in water, because this will bring about loss of flavor and nutrients.

To thaw frozen poultry, it is best to place the bird loosely wrapped in the refrigerator. For large birds, such as turkeys, 3 or 4 days may be needed, while the smaller ones will need less time. Since poultry spoils very easily, it is important to be careful with its handling and preparation.

The age of a given bird determines how that bird will be cooked. Young, tender birds may be prepared by any of the dry-heat methods, while the older ones, which are less tender, will be cooked by the moist-heat methods. Very old birds need to be cooked long and slowly, either by steam or in water. Young, tender poultry are therefore broiled, fried, or roasted; older ones are generally stewed. In order to have a juicy and evenly cooked bird, poultry must be cooked at a moderate temperature.

Dry-heat methods:

1. Broiling

Poultry and meat broiling are quite similar. Since poultry is irregular in shape, however, it requires slower cooking to allow the meat to be done to the bone. When cooking poultry, it is often desirable to start it in the broiler and finish it in the oven. Small turkeys, turkey parts, and chickens are sometimes broiled on a revolving spit. This type of cooking, like charcoal broiling, demands frequent basting.

To broil a chicken, it must first be washed, the hairs must be removed, and some of the water must be drained off. It is then split down the back, the surfaces brushed with seasoned oil, and placed on a broiling rack, about 5" under the flame. As the heat penetrates, the meat will slowly brown. When one side has browned, turn it over and continue to brown the chicken on the other side. When the browning has been done, place the chicken in the oven to finish cooking. If the meat seems to be drying, a little water may be sprinkled over it. Remove the delicately browned chicken from the oven, cut it into serving pieces, garnish, and serve.

2. Frying

Like meat, the tender pieces of poultry may be deep-fried or pan-fried. Because of the varying thicknesses in chicken, more fat has to be used than is used in sauteing. Boneless chicken parts are often sauteed, since the removal of the bone allows the chicken to lie flat in the pan when cooking, and therefore the chicken can be cooked more evenly and thoroughly. For either method, the chicken is cut into serving-sized portions and coated with flour or a batter.

3. Deep-fat frying

To do this method properly, the meat must be covered with hot fat. The breaded pieces of chicken are lowered into the fat in wire baskets and allowed to cook to a golden brown. As the pieces become browned, they are removed, and the excess fat is drained off into the container. The cooked pieces should be placed on absorbent paper and kept hot until serving. The meat may be browned faster and allowed to finish cooking in the oven, if desired.

4. Shallow-fat frying

This is also known as southern style, and is done in a heavy pan. The fat should not be allowed to smoke, because this means that the fat is too hot, and burning will result.

With a fork or tongs, lower the coated chicken into the hot fat, which should cover about one-third of the chicken. The larger pieces should be cooked first, as they will absorb some of the fat. Additional fat may be needed as the rest of the chicken is cooked. There should be space around each piece so that even browning will result. Although it is necessary to turn the chicken to get even browning, the pieces should be turned as little as possible.

5. Roasting

The other types of poultry that were not mentioned in the previous cooking processes are generally cooked in the oven by roasting. Ducks, geese, and game birds are usually roasted whole and may be stuffed. To cut down on cooking time, or if a large turkey is too big for the oven, the bird may be cut in half down the back. The breast may be separated from the legs, also. Some operators will roast the breast but cook the legs by a moist-heat method. In this way, the same bird may be presented to the diner in different ways, such as the breast for entrees and the legs for salad or chow mein.

Poultry that is roasted requires little attention during the cooking process, although the preparation takes extra time if you are going to stuff the bird. To prepare a stuffed bird for roasting, you must, in addition to cleaning the bird and giblets, prepare the stuffing and lightly put it into the neck and rear cavities. The stuffing should not be packed, as it will absorb the juices during cooking and will take up more room in the bird. Remember this rule to prevent an overstuffed bird from bursting. The openings must be closed by lacing or with metal skewers, and the bird must be coated with butter or oil. Ducks or geese do not require added fat. They have sufficient fat, and it will be necessary to drain off some of the fat from time to time.

Roasting is best done in a shallow pan without a cover. A cover would produce steam, which in turn would prevent browning. Large poultry needs lower temperatures and should be turned often, as the parts closest to the top of the oven will cook faster, because heat rises.

Poultry is done when the bones are easily removed from the meat or when clear juice runs from the carcass as the meat is lifted with a fork. Be certain not to over-cook poultry, as it will fall apart and lose its eye appeal. The meat juices and fats, can be collected to make a rich sauce for the cooked bird.

Fruits and vegetables are used in the stuffing of ducks and geese. These tend to add flavor and absorb some of the fat. Wild rice is often used in the stuffing of game birds.

Moist-heat methods

1. Braising

Poultry which is not quite tender enough to be roasted is best when braised. For special dishes, such as chicken cacciatori or salmi of duck, young tender birds are also cooked in this way. This process is about the same for poultry as for red meats. The poultry is cut into pieces, dusted with flour, evenly browned on all sides in hot fat, then simmered or baked in a covered pot (with or without vegetables) in a small amount of liquid. The liquid may be stock, tomatoes, or a sauce. Additional liquid is added as needed.

2. Stewing

Birds used for stewing are usually too old for anything else. The meat is tough and stringy, but can be made tender by this moist-heat method. Cover the meat completely with the desired liquid and simmer for a long time until the tissues become tender. The meat will be more juicy if it is allowed to cool in the stock. The remaining stock is nutritious and should be used as gravy or sauce to serve with the meat. It may also be used as a basic soup stock. The meat from the stewed poultry may be used in a la king dishes, stews, creamed dishes, chow mein, or salads.

3. Steaming

When the poultry is to be used in salads or moist dishes, it may be steamed. Sometimes the steaming serves to blanch or precook the meat before it is used in another way. Steaming is rapid, and therefore it is quite useful.

Summary

Chicken, turkey, and duck are the primary types of poultry cooked and sold in our food establishments. The Cornish hens and the game birds are prepared for special occasions in small restaurants, while large clubs and hotels may have them on their daily menus.

Usually, the poultry we buy today is drawn. That means that the bird has all its insides removed, and the giblets may be placed in a bag and sold with the whole bird. Still, the bird needs further cleaning prior to cooking.

Frozen poultry is best thawed in a refrigerator, because it is a highly perishable item.

The age of the bird usually determines how it will be cooked. Young, tender poultry may be cooked by one of the dry methods, while the older ones should be prepared by a moist-heat method of cookery. The dry methods of cooking poultry are broiling, deep-fat frying, shallow-fat frying, and roasting. Braising, stewing, and steaming are the moist methods used in cooking less tender birds.

Poultry specifications:

Chickens

Broilers – young chickens weighing 1 to 3 pounds; 2½-pound average
Fryers – young chickens weighing 2½ to 4 pounds
Roasters – young chickens weighing about 3 to 5 pounds
Fowl – mature chickens too old for roasting. Stewers.
Capons – unsexed males, about 7 pounds, hormone-treated.

Turkeys

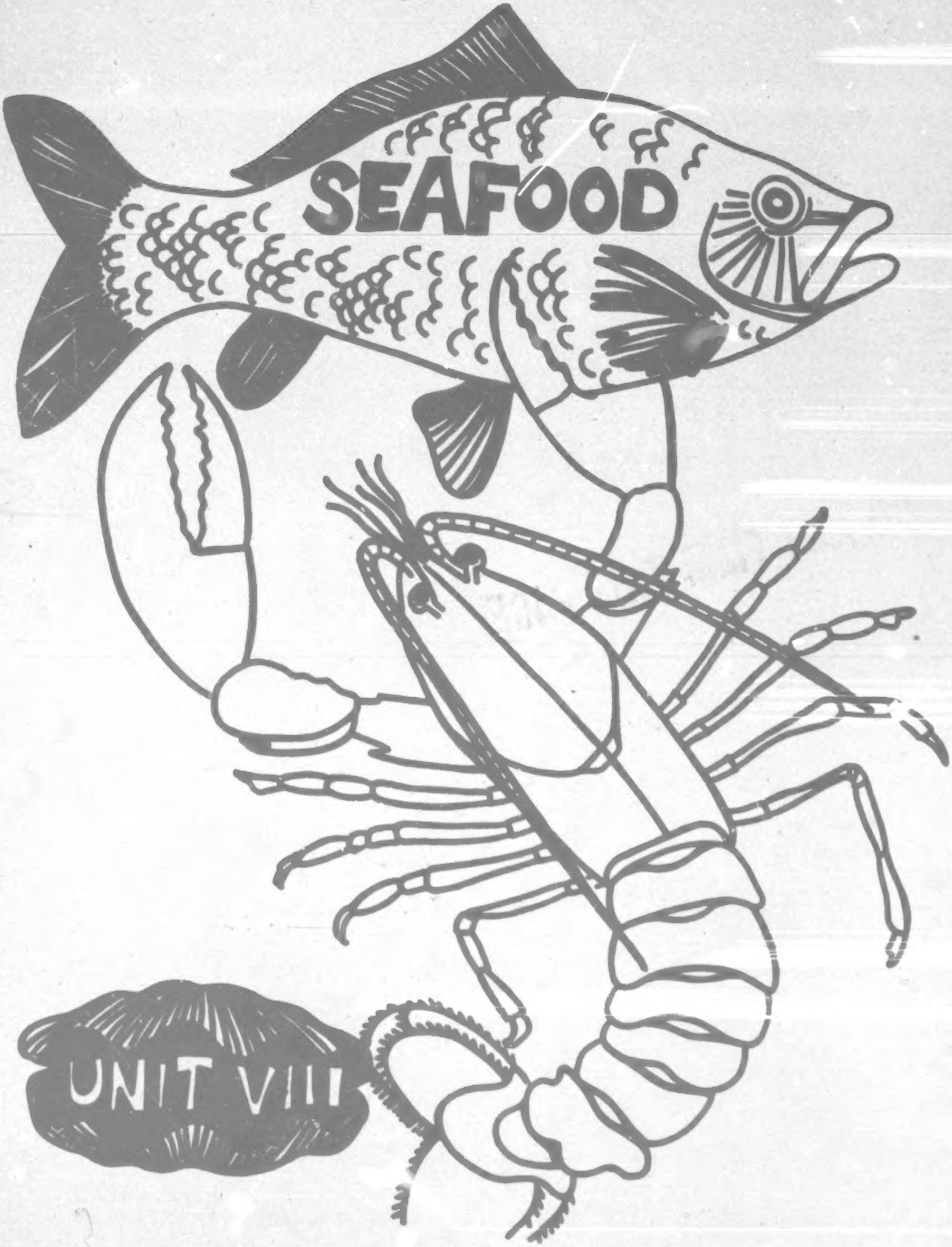
Young hens – females less than a year old
Young toms – males less than a year old.
Old turkeys – over a year old

Ducks and geese

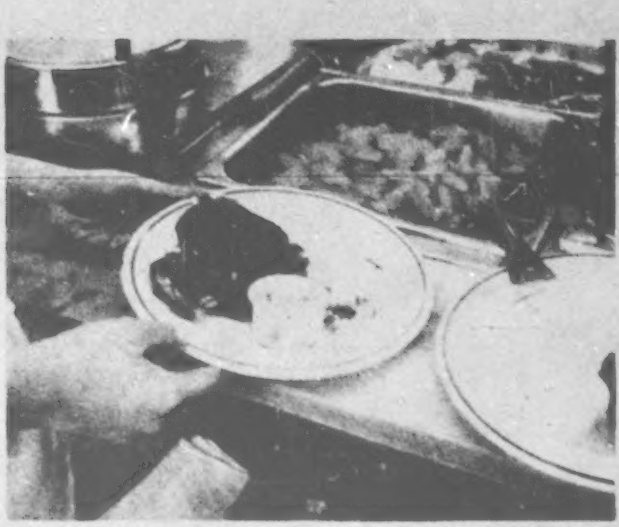
Green ducks and geese – fattened, but not over 16 weeks of age
Young ducks and geese – less than 6 months old
Old ducks and geese – over 6 months old.

Vocabulary

baste	– to moisten with a liquid while cooking (as in roasting)
Cornish hen	– a cross between an American White Rock chicken and an English Cornish game bird, yielding a small bird with all white meat.
domesticated	– raised by man for his own use
giblets	– the edible inner organs of a bird (liver, heart and gizzard)
poultry	– all domesticated birds raised for eggs or meat
singe	– to remove the hair or down from a plucked fowl by using a flame.


SEAFOOD
UNIT VIII

UNIT VIII – SEAFOOD



Always set up the steam table for rapid and easy service. Photo shows a deep-fried seafood platter.

Purchasing

Fresh and frozen fishery products may be purchased in a variety of cuts and forms, the more important of which are listed below.

Whole or round fish are those marketed just as they come from the water.

Drawn fish are marketed with only the entrails removed.

Dressed or pan-dressed fish are scaled and eviscerated, usually with the head, tail, and fins removed.

Steaks are cross-section slices of the larger sizes of dressed fish.

Fillets are the sides of the fish, cut lengthwise away from the backbone. They are practically boneless and require no preparation for cooking.

Sticks are pieces of fish cut lengthwise or crosswise from fillets or steaks, or compressed scraps formed into portions of uniform size.

Butterfly fillets are the two sides of the fish, or twin fillets held together by uncut flesh and the skin.

The market form of shellfish are the following:

Live – Shellfish, such as crabs, lobsters, clams, and oysters, should be alive if purchased in the shell.

Shucked shellfish are those which have been removed from their shells. Oysters, clams, and scallops may be marketed in this manner.

Headless is a term applied to shrimp, which are marketed in most areas with the head and upper portion removed.

Cooked meat – The edible portion of shellfish is often sold cooked, ready to eat. Shrimp, crab, and lobster meat are marketed in this way.

Purchasing fresh fish

Most varieties of fresh fish, like many other types of food products, are particularly abundant during one or more seasons of the year. Local fish dealers will generally furnish information about this and indicate those varieties that can be used to the best advantage, including the less familiar varieties, which are often very good. If you wish to save time in preparation and cooking, fish should be purchased as fillets, steaks, or dressed.

When buying fresh fish, look for the following items to insure freshness.

1. Eyes	bright, clean, full, and bulging.
2. Gills	reddish-pink, free from slime or odor.
3. Scales	adhering tightly to the skin, bright colored, with characteristic sheen.
4. Flesh	firm and elastic, springing back when pressed, not separating from the bones.
5. Odor	fresh, free from objectionable odors.

Storage of fresh fish

Fish, like many other food products, will spoil easily if not handled with care. Fresh fish should always be packed in ice when delivered. From the time it is delivered until it is used, it should be refrigerated at the coolest temperature possible.

Purchasing frozen fish

Most varieties of fish are available year-round in frozen form. Frozen fish, if handled properly, will compare well with fresh fish.

Storage of frozen fish

Frozen fish should be delivered frozen and kept frozen until just prior to cooking. Thaw it overnight in the refrigerator, or, if necessary, under cold running water. Once the fish thaws, it should be used immediately. Never try to refreeze fish after it has thawed.

Purchasing canned fish

Developments in the methods of preservation of fishery products have made a wide variety of canned fish and fish specialties available on the market. These include canned salmon, tuna, mackerel, cod, herring, shad, sardines, sturgeon, etc. These, together with such specialties as fish balls, chowders, cakes, and roe, can be used to add variety to your menu.

Salmon – Salmon canned on the Pacific Coast come from five distinct species and are usually sold by their names, since they indicate the differences in the type of meat. The differences are a matter of color, texture, and flavor. The higher priced varieties are deeper red in color and have a higher oil content. The grades of salmon are:

1. Chinook or King salmon
2. Red or Sockeye salmon
3. Medium Red salmon
4. Pink salmon
5. Chum salmon

Tuna – Tuna canned in this country is produced from four species of the mackerel family. They are yellow fin, bluefin, skipjack and albacore. Tuna is divided into grades according to the types of meat used as indicated below:

1. *Fancy or fancy whitemeat tuna* is choice cuts of cooked albacore tuna packed as large pieces of solid meat.
2. *Standard tuna* consists of cooked tuna meat packed in the approximate proportion of 75% large pieces and 25% flakes.
3. *Grated or shredded tuna* is cooked tuna packed in small, uniform pieces.
4. *Tuna flakes* is cooked tuna packed in small pieces.

Canned fish should be stored in a cool, dark place. High temperatures and humidity should be avoided.

Purchasing shrimp

Shrimp may be purchased in three forms: fresh, cooked, and canned. Fresh or cooked shrimp should be either refrigerated, packed in ice, or kept frozen to insure freshness.

Fresh shrimp are greenish in color and are sold by the pound, either chilled or frozen. The head and thorax are removed. Shrimp are graded according to the number per pound, as follows:

Grade	Number per pound
Jumbo	Under 25
Large	25 to 30
Medium	30 to 42
Small	42 and over

Cooked shrimp are sold by the pound with the shells removed. The meat is pink in color.

Canned shrimp may be packed wet or dry, and generally speaking may be used interchangeably with cooked shrimp.

Purchasing clams

Clams may be purchased in three forms: alive in the shell, shucked, and canned. Shell clams are generally sold by the dozen and must be alive when purchased. When alive, they have a tightly closed shell. Gaping shells that do not close when touched indicate that the clams are dead and no longer usable. If shell clams are held in the refrigerator at about 40°F., they will remain good for quite a while.

Purchasing lobsters

Lobsters may be bought in four forms: live, cooked in the shell, lobster meat, and canned meat.

Live lobsters must be alive up to the moment of cooking. The normal color of live lobsters varies from a dark bluish-green to a brownish olive. The weight usually varies from ¾ pound to 3 pounds. True lobsters have two large claws. This is not true of crayfish or spiny lobster, of which only the tail portion is marketed. Spiny lobster tails are usually sold frozen.

Preparation

Seafood may be classified as freshwater fish, saltwater fish, and shellfish. Seafood is plentiful in all parts of the country today because of new freezing processes and the speed of transportation. It is often a fact that the seafood which is served inland may be just as fresh or even fresher than the seafood served at the shore points. Although seafood is still plentiful, its cost has risen for several reasons, including the ever-increasing cost of labor and the water-pollution problems facing our waterways. Also, other countries are fishing in our salt waters. All these things are affecting the total picture and threatening the availability of this most excellent source of proteins, vitamins and minerals. When compared with meats, fish contain a slightly higher content of the most desirable nutrients. Furthermore, fat in fish is highly unsaturated, and hence desirable for those who wish to cut down on saturated fats.

Because fish is one of our most perishable foods, it is important that it be properly handled and stored. Never thaw frozen fish at room temperature. Remember to thaw it in the refrigerator, or for quicker defrosting, you may use a cold-water bath.

There are several methods used in the cooking of seafood. Many of them are similar to those used in the cooking of meat and poultry, so we will discuss here only those which are peculiar to seafood.

When fish are caught, the breathing and digestive organs must be removed before eating. This process is called evisceration and is especially important when fish is to be frozen. Fresh or frozen fish may be delivered in one of these forms:

1. drawn (eviscerated)
2. dressed or pan ready
3. single fillets
4. butterfly fillets
5. steaks
6. fish sticks

Generally, all seafood is tender and can be prepared by either dry or moist heat methods. Whichever process is used, one thing must be kept in mind: seafood is a high-protein food and must not be overcooked. Overcooking ruins the flavor and texture and must therefore be avoided. To keep fish moist and flavorful, it must be cooked in as short a time as possible, and only until the flesh leaves the bone or shell easily.

The choice of a cooking method for a specific seafood dish will depend entirely on whether the fish is fatty, like mackerel or salmon, or lean, like cod or haddock. The fatty fish would be best cooked by a dry method to insure some draining off of its fats. On the other hand, to cook the cod or haddock it would be necessary to add moisture in the form of a sauce or butter to bring about a tasty product.

Broiling for fish is the same as described for beef steaks, but with one difference – it is recommended that trays be used. The reason is that the strong odor of fish would be left on any broiler which was used without a tray, and this in turn would be transferred to whatever meats were cooked on that same broiler. Meats cooked with a seafood odor would not be very pleasing to a customer.

Seafood may or may not be breaded before it is sauteed or fried. Before fish is fried, it must be thoroughly dried. Green or dried crumbs, corn meal, or flour may be used as a coating before frying. Fish that is deep-fried is almost always coated with green or dry crumbs.

Fish that is prepared by poaching must have a firm flesh that holds together well when simmered. It is wise to poach in a court bouillon in order to retain the natural flavors. Court bouillon is a fish stock which is prepared from fish bones and/or a fish head, simmered with herbs and seasonings.

We use the word shellfish to describe the crustaceans and mollusks. Crustaceans have no backbone and are easily identified by their jointed outer-body shells and jointed legs. Mollusks have soft bodies and live within a very hard shell. Some crustaceans are lobsters, shrimps, crayfish, and crabs. The mollusk family includes oysters, clams, scallops, mussels, snails, and conches. Shellfish may be purchased alive, shucked, headless, or as cooked meat.

Crustaceans may be cooked in one or more of the following ways: boiled, fried, broiled, or steamed. They may be served cold after being cooked.

Shrimp may be boiled with or without their shells. The water should be highly seasoned and at a rapid boil when the shrimp is added. The water is brought back to the boil, and simmered for 5 to 10 minutes. Remove the shrimp and allow it to cool. Never run water over the cooked shrimp, as this will wash the flavor away. Shrimp may be served as hors d'oeuvres or in a salad.

Shrimp to be sauteed is usually shelled and deveined. Breading may or may not be added. When shrimp is deep-fried, it will usually be coated.

To broil shrimp is a simple operation. First, the shrimp must be shelled and deveined, then it may be split or butterflied and placed in a broiler pan. As it is broiled, it is basted. Basting is necessary when this type of shellfish is broiled to prevent drying.

Shrimp to be steamed may be shucked, then placed in the steamer, and cooked according to a guide.

Lobsters and crayfish are among those seafoods most in demand by the customer, but the supply is limited. Lobsters come from the cold waters of the northeastern shores, while the crayfish usually comes from the warmer waters of California, Australia, and Africa. Large quantities of meat are obtained from the claws and tail of a lobster, while the crayfish has no claws but a tail with plenty of delicious meat. Whenever you see "lobster tails" on the menu, you can bet your life that another crayfish has made the supreme sacrifice.

These crustaceans are not ordinarily fried, but the other three methods of cooking are common to both. The lobster will usually be split and deveined. The splitting enables the meat to be cooked more quickly. The lobster may be steamed or broiled and may be served hot or cold. What a delight is the lobster or crayfish which is served with the proper garnish and sauce! Just try to remove the gourmet from a table spread with this treat.

Mollusks are usually steamed or fried, except, of course, when clams and oysters are served uncooked on the half shell. Snails are considered a delicacy by the person who enjoys the French cuisine, while mussels have long been a desirable part of the Italian bill of fare.

Clams, oysters, and scallops may be breaded and sauteed or deep-fried. When they are broiled, they must be basted to preserve their moistness.

These foods are served in all countries of the world. The preparation of these dishes depends generally on the particular customs and acquired tastes common to each area.

Summary

Fish of all kinds and shellfish are called seafood. Nutritionally, seafood is slightly higher in food value than is meat. Fish is an excellent source of rich vitamins, minerals, and polyunsaturated fats.

Seafood is quite perishable, therefore it must be handled with care and kept refrigerated during storage. Although fish has been preserved for many years by canning, smoking, and dehydrating, the fast-freeze methods are now used very effectively.

Seafood cookery is similar to methods used to cook steaks or other tender meat cuts. Dressed fish small enough to fit into a pan may be panfried or broiled, while larger ones may be stuffed and baked in the oven. Some fish are fatter than others and should be cooked by a rather dry method. The leaner fish, usually identified by their lighter-colored flesh, can be sauteed in butter or fat.

Seafoods can be found on any part of the menu except in the dessert area. The demand for shellfish is growing, but unfortunately the supply of mollusks and crustaceans is presently decreasing. Some mollusks, such as clams and oysters, are eaten raw right from the cold, opened shell. What a delicious appetizer to have before dinner!

Crustaceans, including shrimp, lobsters, and crabs, may be cooked by any of the methods of cookery. Keep in mind that all seafood is delicate protein and should be cooked at a low temperature for a short time.

Vocabulary

butterfly	– meat partially cut in half, leaving two sides held together by an uncut portion. A method sometimes used to make a small portion appear to be larger. Sometimes the split is used as a pocket for a stuffing.
court bouillon	– stock consisting of water, vinegar or wine, savory vegetables and seasonings, in which fish parts have been cooked. It is used for poaching fish.
crustacean	– a shellfish with no backbone. It is identified by its jointed outer shell and legs.
drawn	– eviscerated
entrails	– the inner organs of fish or other animals
eviscerate	– remove the entrails
fillet	– boneless cut of fish or meat. In fish it runs lengthwise, parallel to the backbone.
mollusk	– a shellfish with a solid, hard shell, which holds a soft, muscular body. There are no limbs for motion.
poach	– to cook in simmering water or stock, like eggs or fish
shellfish	– water animals with shells, like crabs, snails, clams, or lobsters.
steak	– a slice of meat cut from a fleshy part, esp. of a beef or a fish carcass.
whole	– uneviscerated, everything still intact.

EGGS

UNIT IX – EGGS

Composition and structure

Eggs are almost a complete meal in themselves. The protein in the egg is of high quality and is easily digested, either raw or when properly cooked. The yolk contains the fat, vitamin A, thiamine, calcium, phosphorus, and iron of the egg, and considerable protein and riboflavin. It is very high in cholesterol. The white (albumen) contains more than half the protein and riboflavin, but no fat and no cholesterol. The nutritive value of the egg is not reduced by cooking.

To most of us, the egg has two basic parts – the white and the yolk – but with further examination, you'll find other important parts, such as the shell, the chalazas (two cordlike membranes), and an air cell.

The outer shell, which is a holder and protector, happens to be rather porous. The pores allow the eggshell to breathe in air and to release moisture. The older the egg, the larger the air cell, thus making it easy to test the freshness of eggs. If an egg floats when it is put in water, it is not fresh. Fresh eggs will sink to the bottom of the water because the air cell is small. Because the shell of an egg will let air penetrate, it is also likely that strong odors and unwanted flavors will pass through the shell as an egg ages, rendering it unsuitable for certain uses. An egg should never be washed before storage, because the porous shell will also allow undesirable bacteria to pass through, increasing its chances for spoilage.

Inside the shell is a thin membrane, which protects the white. The white and yolk are also separated by another thin, filmy skin that allows the two to be easily separated from each other. Looking a bit closer, you will see two cord-like connective tissues which hold the yolk centered inside the shell. These are called chalazas.

A very important quality of the white of the egg is its elasticity. It is capable of being stretched into thin films that can hold air, as when beaten to make meringue. The yolk will not hold much air when beaten, because its structure is not very elastic, but it does become creamy and lemon-colored. It is a great emulsifier or stabilizer.

Point to remember: If even the slightest amount of yolk or fat is mixed with the egg white, much of the white's ability to whip is destroyed. The whipped egg whites will slip around and will not pile up into a structured mass.

Purchasing

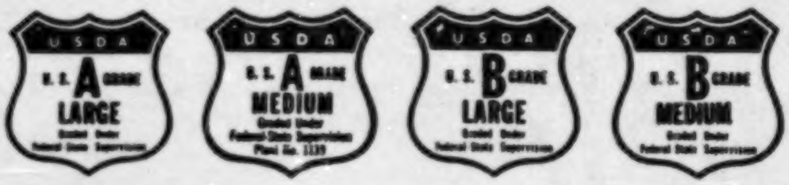
Eggs may be purchased in the following four forms:

1. Shell eggs – fresh
2. Frozen
3. Liquid
4. Dried

Shell eggs

Eggs to be marketed are graded according to shell condition, clearness of the egg white, size of the air cell, and the quality of the yolk. They are graded U.S. AA, U.S. A, U.S. B, and U.S. C. The first three grades are used commercially.

GRADE	SHELL	AIR CELL	YOLK	WHITE
U.S. AA	Clean, sound, normal	Regular, max. 1/8 in. in depth	Centered, no germ or defects	Clear and firm
U.S. A	Same as above	Regular, max. 2/8 in. in depth	Almost centered no germs, almost no defects	Clear and firm
U.S. B	Clean, sound and almost normal	Some movement, max. 3/8 in. in depth	Fairly loose, some germ development, some defects	May be slightly cloudy, reasonably firm.



The size of the egg has nothing to do with the grading. Sizes are classified as follows:

Jumbo
Extra large
Large
Medium
Small

Eggs should be purchased according to the way they will be used. For example, the most perfect eggs (grades AA or A) should be used when the egg will be exposed to the eater, as when served hard-cooked, fried, or poached. But if the eggs are to be scrambled or made into omelets, the firmness or clearness of the white or the roundness of the yolk will not have to be perfect. Eggs graded B and C are suitable for use in baking and in food mixtures where they are needed mainly for their nutritional value, color, and binding and leavening powers. Buying eggs for their most suitable use is important because it saves money. Why pay the high price for grade AA eggs when you are operating a pancake house or bakery? On the other hand, if you are serving customers sunny-side-up eggs in a restaurant, you will soon be looking for more customers if you are using grade B or C eggs.

If there is more than a 7-cent difference per dozen eggs between one size and the next smaller size of the same grade, you will generally get more for your money by purchasing the smaller size. For example, if medium grade A eggs cost 80 cents a dozen and large grade A eggs 90 cents a dozen, then the medium eggs would be the better deal.

The color of the shell does not have anything to do with the quality of the egg. When the shell is brown, that is no indication that the yolk is richer or darker. It is the feed used that influences the color of the yolk. The brown egg is not sold in some areas because it is considered undesirable, while in other areas it is thought to be superior and commands a higher price.

Frozen and fresh eggs may be used equally well in cooking, but when using large amounts, the frozen product is better because frozen eggs are:

easier to handle and store,
less wasteful
more uniform and higher in quality, and
less likely to fluctuate in price.

Frozen eggs can be bought in the following forms:

Whole eggs
Yolks only
Whites only

Because of difficulties with the handling and keeping qualities of eggs sold broken-out in liquid form, they are not very popular in the food industry.

Dried eggs are not used today in food preparation as much as they were in the past. However, the convenience foods, like quick puddings, box cakes, and other precious food items which we cannot do without, often contain dehydrated egg products.

Storage

Eggs of all types must be stored under refrigerated conditions. These are the best storage temperatures:

Fresh eggs	29–35° F.
Frozen eggs	−10–15° F.
Liquid eggs	35–40° F.
Dried eggs	Cool, dry place (below 70° F.)

Whenever eggs are stored, they should be properly covered, because they can easily pick up strong or unwanted odors from other items which might be in the same storage area.

Food Value of Eggs
(100 grams or 3½ ounces – about 2 medium-size)

Water	74	percent	Calcium	54	mg.
Food energy	160	calories	Phosphorus	210	mg.
Protein	12	grams	Vitamin A	1180	I.U.
Fat	12	grams	Thiamine	.10	mg.
Carbohydrates	Trace		Riboflavin	.30	mg.
Iron	2.2	mg.	Niacin	Trace	
			Ascorbic acid	0	

Effects of cooking

The physical appearance of the egg will change when it is cooked, but usually there is no loss in nutritive value. During the cooking process, the white of the egg, which is partially or almost clear, becomes truly white. The process in which the white and yolk become firm is termed coagulation. The white will coagulate between the temperatures of 134°F. and 160°F. The yolk will actually coagulate or harden at a slightly lower temperature but because of its position in relation to the heat source, the white usually cooks first. It may even shield the yolk so that it is possible for the white to be completely coagulated and the yolk still soft.

The overcooking of an egg will offer digestion problems, similar to those which may develop after eating a piece of overcooked meat. And a raw egg will digest twice as fast as a cooked one. As a piece of meat that is cooked with too high a temperature will become dried, shriveled, tasteless, and discolored, so will eggs that have been improperly cooked – too long or with strong heat. Eggs should be cooked as slowly as possible using temperatures ranging from 170°F. to 300°F. These temperatures will vary with the type of preparation (poaching, frying, scrambling, etc.)

Eggs as the chef's helpmate

Eggs are among the most useful and helpful of all staple foods. They can be a part of any meal and any course, from appetizer to dessert. Eggs are excellent as a main luncheon dish, because they are easily and quickly prepared.

No food-service operation will have a breakfast menu without eggs, but breakfast is only one of the many occasions for eggs.

Uses for eggs other than as a main dish:

1. Thickener
2. Leavener
3. Stabilizer
4. Binder
5. Clarifier
6. Coating agent

Eggs are used in all phases of cooking. They can be used as a garnish for salads, vegetables, cold meats, and hot or cold seafood dishes. There is no other food which has so many varied uses. They also add to the flavor, color, texture, and nutritive value of the products in which they are used.

Eggs as a thickening agent

Eggs can thicken soups, sauces, puddings, and custards because the albumin (the protein in the egg white) and the proteins in the yolk quickly set (coagulate) when heated. When eggs are beaten with milk, the two become homogeneous, that is, so well blended that they are united as one liquid. As the egg mixture begins to set, therefore, the entire product thickens up.

When finishing soups or sauces made with milk, there are times when it is necessary to improve the quality. In order to make the sauce more velvety or thicker, the blended combination of heavy cream and egg yolks may be stirred in. This combination added to a bechamel sauce gives you a supreme sauce. The combination (egg yolks and heavy cream) is called a liaison. (Important: do not boil after the liaison is added.)

Eggs as a leavener

The egg white is a leavening agent because of its adhesive action (holding together) as well as its elasticity. Have you noticed that when you try to pick up an egg white, it attempts to stay together and is sticky. When beaten, the white will separate into thin films. These films trap air in tiny bubbles, making a mass of little air cells. As the product is heated, the air in the bubbles expands. The egg films stretch, and then, when the temperature is hot enough, the risen cells will set and hold the leavened affect.

When beating egg whites, beat them until they are stiff and hold their peaks. If beaten to the dry, unshiny stage, leavening will not take place. The whites will begin to spatter and fly out of the bowl as they start to become dry.

Eggs as a stabilizer (emulsifying agent)

When making hollandaise sauce or mayonnaise, we are calling on tiny air bubbles and the adhesive qualities of eggs once again. These tiny air bubbles surround the fatty substances and prevent them from running together again, causing the mixture to remain emulsified for long periods of time (see recipe for hollandaise sauce.)

Eggs as a binding agent

That wonderful adhesive action of eggs makes them useful in another way – they are often used with other ingredients in a mixture to hold a product together. For example, they are used in croquettes, meat loaves, fishcakes, and many other similar preparations which need a binder to keep them from falling apart.

Eggs as a clarifier

The white of an egg may be used to clarify broths or clear soups, such as consommé. Years ago, when coffee was brewed on the stove by boiling it, eggshells were added to collect floating, unsettled dregs and grounds. This undesirable sediment is filtered out today. However, a knowledgeable camper should not dispose of his eggshells until the coffee pot is empty!

When used to clarify, egg whites are added to a cold stock. As it is heating, the eggs coagulate and catch or collect undesirable particles that may be floating around in the pot. The act is termed a clarification or a raft.

Eggs used as a coating agent

Well-beaten eggs are used as a dip, in order to utilize their adhesive qualities during a breading or coating process. The egg batter really helps the coating to stick to the items which are to be fried. The usual system for breading is to first dredge the food with flour, then dip it into an egg dip, and then into the breading mixture. Make sure that the excess of each substance is removed before coating with the next ingredient. Food items which may be egg-dipped are croquettes, cutlets, fritters, and onion rings.

Preparation

The methods for preparing eggs are many, but the fundamental rules concerning their expert preparation are few. Eggs are not to be overcooked or undercooked. They should be neither too hard nor watery. Egg preparation must be exactly to the customer's satisfaction. A breakfast cook has a very special task to perform.

The basic types of egg cookery are:

soft-cooked
hard-cooked
coddled
poached
scrambled
fried
omelet
shirred

Soft-cooked eggs

A soft-cooked egg, properly cooked, will be tender and easily digested. Start the egg in *cold* water. Bring the water to a *simmer,* remove from the heat, cover, and let stand a few minutes. Most everyone has heard of the 3-minute egg. Well, this egg preparation begins in *boiling* water. The eggs should be at room temperature so they will not crack. They are lowered into the boiling water, and the water should be allowed to simmer for 3 minutes. Remove the egg. When opened, a soft, tenderly cooked egg will appear. A teaspoon is a good tool to aid in the removal of the egg from the shell. The cooking time may be varied according to the desired doneness. The size of the pan and quantity of eggs being cooked must also be considered.

A soft-cooked egg is most desirable for a person recovering from an illness, especially where the patient has not eaten for a while. It will begin to line his stomach before anything else is consumed.

Hard-cooked eggs

Though often eaten by itself, a hard-cooked egg serves mainly as a garnish. The beautiful combination of yellow and white makes it quite useful as a colorful ornament. Chopped hard-cooked eggs are often used to complement other foods, such as in salads or in a white sauce.

To prepare hard-cooked eggs, place the eggs in a stainless steel container. Cover them with boiling water and let them just simmer for 20 minutes. Drain them at once and cover them with cold water. Keep the water cool by adding more as needed. If the eggs are allowed to cook too long or in rapidly boiling water, the yolk will develop a green color around it. The egg will look better when the yolk is golden in color. Temperature control will assure beautiful eggs each time. The desirable temperature is the simmering point of water – 180° to 185°F.

To remove the shell, crack it gently all around and let warm running water help to remove it. Prompt cracking of the shell will help prevent the green color from forming, as it will allow the escape of the gas that causes it.

Secret: If an egg is cooked, you will be able to spin it. Try to spin a fresh egg and see what happens.

Coddled eggs

Coddled eggs are also good for delicate digestive systems or for people recovering from illnesses. They are just great when the stomach needs a little pampering.

To prepare coddled eggs, gently lower them into boiling water (2 cups per egg). Cover and remove to a warm place. Let stand twice as long as they would simmer for eggs cooked over the heat – 6 minutes for a soft-cooked egg, or 30 to 40 minutes when hard-cooked.

Poached eggs

To poach eggs, break them, one at a time, into a bowl. Slide each egg into boiling water which has been seasoned with salt and a little vinegar or lemon juice. Although the additives reduce the fresh taste of the egg, they help the egg to remain whole in the simmering liquid. If the cooking vessel can be removed from the heat, a lid should cover it until the desired doneness is reached.

These eggs may be used as a garnish, but they are absolutely delicious served over buttered toast. Drain well before serving.

Scrambled eggs

Hot fluffy scrambled eggs are indeed a treat, but if they are cold or overcooked, you are in for a treatment. To scramble, break eggs into a mixing bowl and beat them with a fork until well mixed. Stir in salt, pepper and a little milk and mix thoroughly. Melt a small amount of butter or margarine in a skillet. When it is hot, pour in the egg mixture, reduce the heat, and cook slowly, stirring gently, until eggs are set but still moist.

Fried eggs

To fry eggs, heat a little fat, just enough to prevent sticking, in a small frying pan. Coat the entire bottom. Slip the eggs from a saucer into the pan. Cook over a very low heat (approximately 275°F.) until done. The desired doneness will vary with each customer. The white will coagulate at this low temperature. But if the egg is to be turned, flip gently, as you would a pancake. Care should be taken not to break the yolk or brown the white. Serve while hot. Broken yolks can ruin a good business.

Omelets

An omelet is made by breaking the eggs into a bowl and beating the daylights out of them. The more you beat them, the lighter the omelet. Carefully season. Let the fat become quite hot, but not browned. Then pour the eggs, all at once, into the heated pan. When the bottom has started to set, gently push the eggs from the edge toward the center with a fork or spatula. At the same time, tilt the pan and the still-loose eggs will run to fill the empty space. Repeat this until the eggs do not run. Fold the eggs in half. Brown lightly and turn onto a hot platter.

If the omelet has a filling (like mushrooms or cheese), the ingredients should be prepared before starting the omelet. They may even have to be precooked, because omelet cooking is too fast to properly cook raw food items. When the eggs in the omelet have almost set, pour the other ingredients into the center of the omelet. Then fold the outer edges over the center. Slide the omelet to the outer edge of the pan and brown it lightly. Then invert (turn it over) onto a preheated platter. Serve the omelet while it is hot.

Shirred eggs

Shirred eggs are baked at a low temperature in a special dish. First, butter the egg dish and heat it slightly before adding the eggs. Serve them in the same baking dish, and let the customer season to taste.

Uses of leftover eggs:

Leftover Yolks	Leftover Whites
Dip	Glazing
Puddings or sauce	Frostings
Frosting	Meringue
French toast	Cakes
Cakes, muffins	Garnishes

Summary

The fine qualities and the usefulness of the egg cannot be equaled by any other one food. It has most of the basic vitamins, minerals, and proteins needed by an adult.

Two main parts of the egg are the albumen (white) and the yolk (yellow). The albumen is composed mainly of protein, minerals, and water, while the yolk is high in fat, vitamins, and minerals.

The color of the shell does not determine its quality.

During cooking, the egg coagulates and becomes firm. Because the egg is high in protein, a slow cooking temperature is more desirable than a high one. A high temperature will make the egg protein hard, tough, and not easily digested.

Eggs may be served as any part of a meal or used as garnish. When combined with other foods, they increase the nutritional value and may serve as one or more of the following agents:

1. Binding agent in meat loaf, croquettes, or similar items
2. Clarifying agent, as in soup or broth.
3. Coating agent, as on veal cutlets and fish for frying
4. Emulsifying agent, as in mayonnaise. It is a stabilizer.
5. Leavening agent, as in cakes and souffles.
6. Thickening agent, as in soups, sauces, and puddings.

There are several methods used to cook eggs: soft-cooked, hard-cooked, coddled, poached, scrambled, fried, omelets, shirred, and souffles.

When you have mastered egg cookery, you are well on your way to being a successful chef.

Vocabulary

albumen	– the white of an egg
albumin	– a water-soluble protein found in egg whites, milk, and other animal substances
clarify	– to make clear or pure
coagulate	– to come together as a clot – thicken into a mass
elasticity	– the ability to stretch without breaking
emulsifier	– something that enables two products that will not ordinarily mix (as oil and water) to form a stable mixture that will not separate, at least for a while
garnish	– to decorate, to make attractive
leavener	– something that causes a cooked product to be light and fluffy rather than solid
liaison	– a connection; bringing together. In cooking it refers to adding a rich mixture, as of cream and egg yolks, to a sauce.

membrane	– a thin sheet, lining, or layer; especially of animal or plant origin
simmer	– to cook slowly in liquid, just below the boiling point
stabilizer	– essentially the same as emulsifier

RICE AND PASTA

UNIT X – RICE AND PASTA

These two food products are being discussed together because they are purchased, stored, and cooked in many similar fashions. Rice and pasta are both starchy foods: rice is a natural grain, and pasta is a food product which is made from semolina, a flour made from the wheat grain. Both are used as a starchy part of a meal, to replace the potato, the most common starch in the American diet. Nutritionally, enriched pasta is a pretty good substitute, but rice is less so.

Purchasing

For the homemaker, these two friends – rice and pasta – are usually sold packaged by the pound. For industrial purposes, they are packaged for bulk purchasing. For example,

> noodles are sold in various sizes – wide, medium, or small – in 10-pound cartons;
>
> macaroni (elbow, spiral, lasagna, etc.) is sold in 20-pound cartons;
>
> spaghetti is sold in various thicknesses and usually in 20-pound cartons;
>
> rice can be purchased in several different weights, including packages of 10, 25, 50, or 100 pounds.

It is not common practice to sell these foods loose, but there are still a few markets where this type of shopping is enjoyed. To determine the quality of macaroni or spaghetti, break it. If it breaks evenly, with no splinters, it is fresh and of high quality. There is no direct method for determining the freshness or the quality of rice before it is cooked. But when purchasing rice, be sure that it contains a minimum of foreign particles and that moisture has not caused the rice to swell or mold.

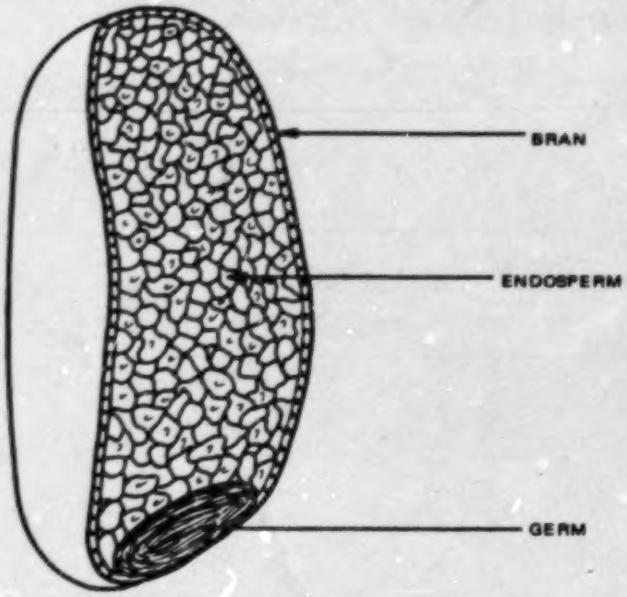
Pasta can be purchased in many shapes and forms, while there are fewer varieties of rice. Even with their differences, the purchasing and storage of rice and pasta are very much alike. Remember that the larger the volume purchased, the less expensive it will be. But never buy so much that it will spoil or decline in quality before you get to use it.

Storage

Rice and pasta are stored by keeping them tightly covered in a cool, dry place. Rice can be stored successfully for a year or more, but pasta may become stale and crumbly in less than 2 months. However, do not overstock or store them too long. Improper storage can cause contamination by vermin (rodents and weevils). Proper storage also means that all stored goods should be used in proper rotation.

Rice

SCHEMATIC DIAGRAM OF KERNEL OF RICE OR GRAIN



BRAN OR OUTER COATING: Cellulose (also protein, phosphorous, iron, thiamine, riboflavin, niacin).
ENDOSPERM: Primarily starch.
GERM: Thiamine, riboflavin, niacin, some fat.

Rice is classified as a grain or cereal, as are wheat, corn, oats, rye, and barley. These grains are made into a wide variety of flours, meals, and breakfast foods. Grains like corn, rice, barley, and oats are often eaten as one part of a meal, to supply carbohydrate for energy. They are also consumed in many other forms. You will find that they are a part of our breads, meat loaves, appetizers, candies, and other items.

More than half of the world's population uses rice as a staple food. Rice was introduced to the United States in the 17th Century and is now grown chiefly in Louisiana, California, Texas, and Arkansas.

Types of rice

There are three types of rice grown in the United States –

Long-grain rice
Medium-grain rice
Short-grain rice

Louisiana is the main source of long-grain rice. It happens to be the most expensive variety, because it has a lower yield per acre than the others. After cooking, it is the most attractive for table use, as the kernels stay well separated from each other.

Short grain rice is grown in California and is often referred to as Japanese rice. The main advantage of this type is that fewer grains are broken during the milling process, because the kernels are tougher and rounder; therefore, this rice is the least expensive of the three. Since the grains tend to stick together, this rice is a valuable binder in mixed dishes such as meat loaves.

Texas, generally known for long, tall, and big things, is the growing place for the medium-grain rice. This rice is between the sizes of the other two varieties and combines the advantages of both. It also gives a good yield per acre.

The three types of rice are sold and consumed at all of the various stages of milling, which are:

1. Brown rice
2. Unpolished rice
3. Polished rice
4. Coated rice
5. Converted rice
6. Precooked rice

Most of the rice marketed in this country has been processed through the first three stages of milling. A talc is used to coat some of the rice, while varying processes are used to prepare the converted and precooked rices. Rice is sometimes packaged with other dehydrated products as specialty items, such as Spanish rice, pilaf, and wild rice.

The preparation for marketing includes the removal of the hull and varying amounts of the seven layers of bran. The amount removed determines the name given to the final product

Brown rice

The rice grain in its natural state is enclosed in a tough, fibrous hull. When the hull is removed but not the bran, the product is called brown rice. Brown rice has a rich, nutty flavor and has more nutritive value than white rice.

Unpolished white rice

Part of the germ and bran is removed in undermilled or unpolished rice. The surface of this rice still has a rough finish. This rice is marketed in rather small quantities to satisfy those people who prefer it.

Polished white rice

Further milling removes the bran and germ, and the product is sold as white or polished rice. Most of the rice marketed in this country is sold in the form of polished white rice. Some of it is enriched with B-vitamins and iron.

Coated rice

A combination of glucose and talc is used to coat some of the rice. This coating improves its appearance and increases its keeping qualities. The coating is harmless and is easily removed from the rice by washing it before cooking. Rice should be washed only if it is a coated variety. Otherwise, a large proportion of the B-vitamins goes down the drain.

Converted rice

The purpose of converting rice is to capture the water-soluble vitamins, particularly thiamine and niacin, that are normally milled away in producing white rice. The process includes the soaking of the unhulled rice in hot water for several hours. It is then dried, steamed, and redried. Then it is hulled and milled with the pearling cone. The grains are slightly yellowish. When cooked, however, the kernels are almost as white as rice prepared in the regular manner. This form of rice maintains its shape and texture well after cooking.

Precooked rice

This processed rice is much easier and faster to prepare than regular white rice. Actually, it is a heat-and-serve product. The regular milling process is used up to the polished white rice stage, and then the rice is precooked in a special process and packaged for sale. Vitamins and iron are added in the process. To reconstitute this "instant rice," stir it into boiling water to which has been added salt and butter. Cover and remove from the heat. Let stand for 5 minutes, stir, and serve.

Food Value of Rice and Macaroni
(1 Cup of Cooked Product)

	Unenriched White Rice	Enriched White Rice	Converted Rice	Enriched Macaroni
Water (percent)	73	73	73	72
Food energy (calories)	225	225	185	155
Protein (grams)	4	4	4	5
Fat (grams)	Trace	Trace	Trace	1
Carbohydrates (grams)	50	50	41	32
Calcium (milligrams)	21	21	33	8
Phosphorous (milligrams)	51	51	105	70
Iron (milligrams)	.4	1.8	1.4	1.3
Thiamine (milligrams)	.04	.23	.19	.20
Riboflavin (milligrams)	.02	.02	.02	.11
Niacin (milligrams)	.8	2.1	2.1	1.5

Note: The above figures for the vitamins in rice assume that all of the cooking water is absorbed, not drained off.

Wild rice

This grain is not a true rice, but kernels of a perennial grass native to the United States. It grows in almost every state east of the Rocky Mountains.

The Indians and wild ducks used wild rice, and the white settlers followed their example. Its fame spread throughout the states and over to Europe. Later, it was sent to Europe to be planted and has done well there.

This one grain has many names, of which a few are Indian. It bears such names as "blackbird oats," "fool's oats," "Indian rice," "duck rice," and "wild oats." You would think that one item couldn't have any more names, but now the plants also grow in China and Japan, where that culture has also developed more than 10 names for this rare rice!

Generally, this rice is cooked somewhat like white or brown rice, but the length of cooking time is increased and more liquid is used.

Preparation

Rice may be prepared by boiling in water, steaming under pressure, baking in the oven, or by Oriental methods. Cooked rice should have plump, fluffy grains which are separate from each other. It is also desirable for the grains to be unbroken. Remember that one pound of rice equals 2½ cups and will swell to about 8 cups while cooking.

The methods for preparing brown and white rice are almost the same. It is important to remember that when cooking brown rice, the cooking time will be doubled, and a little additional cooking liquid may be needed. When cooking rice, be careful not to scorch it. It may be stirred once or twice to prevent clumping, but too much stirring breaks up the grains and causes it to become sticky.

Rice must always be cooked in a liquid, but the liquid does not have to be water. Milk, stocks from meats, seafoods, and vegetables, and any other suitable liquids may be used. Casseroles containing rice are delicious and may be eaten as a main course – for example, arroz con pollo (rice with chicken). Rice also may be used as a garnish, a dressing, a pudding, a salad, or as a filler or binder when mixed with other ingredients.

Boiled Rice

1. Bring to a boil 1 gallon of water, to which has been added 2 tablespoons of salt.
2. Inspect and wash 1 pound of rice.
3. Drop the rice slowly into the boiling liquid so that the liquid continues to boil and roll. This will prevent the grains of rice from sticking to the pan. Stir once if necessary.
4. Continue to boil for 12 minutes.

5. Test a few grains. If the rice is not cooked enough, test it again every few minutes until the grains will crush between your fingers. Now, the rice is done.

6. Drain the rice in a colander with small holes.

If the rice is to be stored in the refrigerator, cool it under cold water to stop the cooking. Leave some cold water on it. Cover it with a cloth and refrigerate it. When the rice is to be used the same day it is cooked it should be drained and placed over boiling water, covered with a clean, thin cloth and allowed to steam until fluffy and ready to serve.

This method is excellent for rapid, short-order service. The rice will stay hot, and the kernels will not stick together.

Precaution: Do not cover boiling rice, because the liquid has a tendency to foam up and over the top, making a real mess to clean up.

Oriental Boiled Rice

1. Inspect and wash 1 pound of rice.

2. Into a heavy 4-quart pot with a lid, put the rice, 5 cups of liquid, and 1½ teaspoons of salt.

3. Bring these to a boil. Stir once and let boil until the liquid is below the rice level and little craters (holes) are formed.

4. As soon as the craters stop bubbling, lower the heat and tightly cover with the lid.

5. Continue to cook the rice for 20 to 25 minutes on very low heat, or until the liquid is absorbed and the rice is tender and fluffy. Serve or use as desired.

Hint: Do not pack when serving. Use twice as much liquid (by volume) as rice. For pilaf, use 1½ times as much liquid. Less liquid is used because the vegetables have moisture in them.

Rice Pilaf

This is an East Indian method of cookery. The basic ingredients will be mentioned here, but many variations may be used.

1. Saute 1 medium, finely chopped onion in ¼ pound of butter or bacon fat.

2. When the onions are transparent, add ½ pound of butter and 1 pound of washed rice.

3. Lower the heat and stir the rice until it absorbs the butter. The rice will begin to turn yellow and become transparent. Stir to prevent scorching.

4. Mix in seasonings and all other ingredients. Cover with a scant 4 cups of boiling stock or water.

5. Let the rice mixture boil until craters are formed.

6. Cover the pot with greased paper that has been punctured to release the steam. Or, when the craters have developed in the rice, the ingredients may be put into a casserole dish, covered and popped into the oven at 350°F. Leave the rice in the oven for 30 minutes, until the moisture has evaporated.

7. Remove from the oven and serve as directed.

Note: Pilafs can be made with any type of meat, poultry, seafood, vegetable, or fruit. Using stock rather than water will increase the tasty flavor. Serve the meats and vegetables with the rice. Try it; you'll like it!

Steamed Rice

Rice may be steamed, using the proper steaming equipment. The liquid should equal 1½ times the amount of rice.

Pasta

Macaroni, noodles, spaghetti, and other pastas have had an important place in our food industry for centuries. World History tells us that all nations would like to claim the honor for the invention of pasta. However, ancient records seem to show that the honor really belongs to the orient. Pasta probably originated in China, but the Japanese also claim that their rice pasta is the original pasta. Usually we associate spaghetti and macaroni with Italy, where they are staple foods, and noodles with Germany.

Types of pasta

American types of pasta are made of a hard-wheat product called durum flour or semolina. It can be used as the complete substance for the paste, but sometimes it serves only as the base. The flour is moistened and thoroughly mixed by machine, then it is kneaded under pressure. The shape into which it is cut or molded determines the name of the product. Spaghetti is round, with strands like string. Macaroni is found in many forms, including spiral, elbow, tubular, seashells, alphabets, and others. Noodles generally have eggs added in the manufacturing process; they come in various widths and shapes also, although most often in the form of flat ribbons.

Spaghetti and macaroni are seldom served without a sauce or dressing. They must be complemented with at least a little butter or olive oil, because they are bland in flavor and need a rich, spicy, or tangy sauce for support. They may be served with any of the mother sauces, but nothing can take the place of the famed bronze-red tomato sauce for spaghetti. Pasta is also served with meats, often in casseroles. And the salad department cannot be left out of the pasta parade, because a person who hasn't eaten macaroni salad hasn't lived! Pasta in one form or another is used internationally in cooking.

Pasta Preparation

All pasta should be cooked in liquid until tender, yet firm. Never overcook! Th Italians call it "al dente" – sufficiently firm to be felt "to the teeth." Care must b spent to cook pasta to just the correct doneness. If you overcook pasta, it will be a sof and shapeless mass, which will not be very appetizing. Macaroni is done when the end o a cut piece does not look chalky and white.

Cooking Spaghetti and Macaroni

1. Using 3 to 4 quarts of water per pound of pasta, bring water to a boil. Add salt and oil to prevent sticking.
2. Add the pasta slowly to keep the water boiling.
3. Allow the pasta to cook 10 to 20 minutes, depending on the hardness of the pasta. More water may be needed for thicker varieties.
4. Stir the pasta only to prevent clumping. Never use a metal fork in pasta cooking. The metal breaks the pasta. A long wooden spoon is good for stirring pasta.

Spaghetti and noodles are served with a variety of sauces and soups. Between the simplest and the most outstanding, there are many different types to meet the approval and to satisfy the palate of the cook. Noodles can also be deep-fried and served with Oriental and Polynesian foods.

Macaroni is delicious baked in a creamy, tangy cheese sauce. Remember that these pastas are interchangeable and may be used as the chef desires. In cooking, do not forget that the customer and his desires must be considered first!

Summary

Rice and pasta can add flexibility and excitement to a menu because of the variety of ways they can be prepared. They serve as a suitable starch substitute for the American potato.

Buy these food items as needed to prevent long storage periods, because they are subject to contamination. Store rice and pasta products in a cool, dry place.

Rice can be purchased in several forms, but the polished white rice is used more than all other types. Polished white rice has had the hull and bran removed in various stages of the milling process, while brown rice still contains the bran. Long-grain rice is used as a starch substitute, while short grain rice is generally used as a binder or filler. The long-grain rice is more attractive than the short-grain rice, but the stickiness of the latter makes it very useful in pudding or meat loaf.

Wild rice is not a true rice, but is similarly prepared.

Rice must always be cooked in a liquid. However, the liquid does not have to be water. Remember that when the liquid boils, it has a tendency to foam, so don't cover boiling rice or you may have a mess to clean up if it boils over.

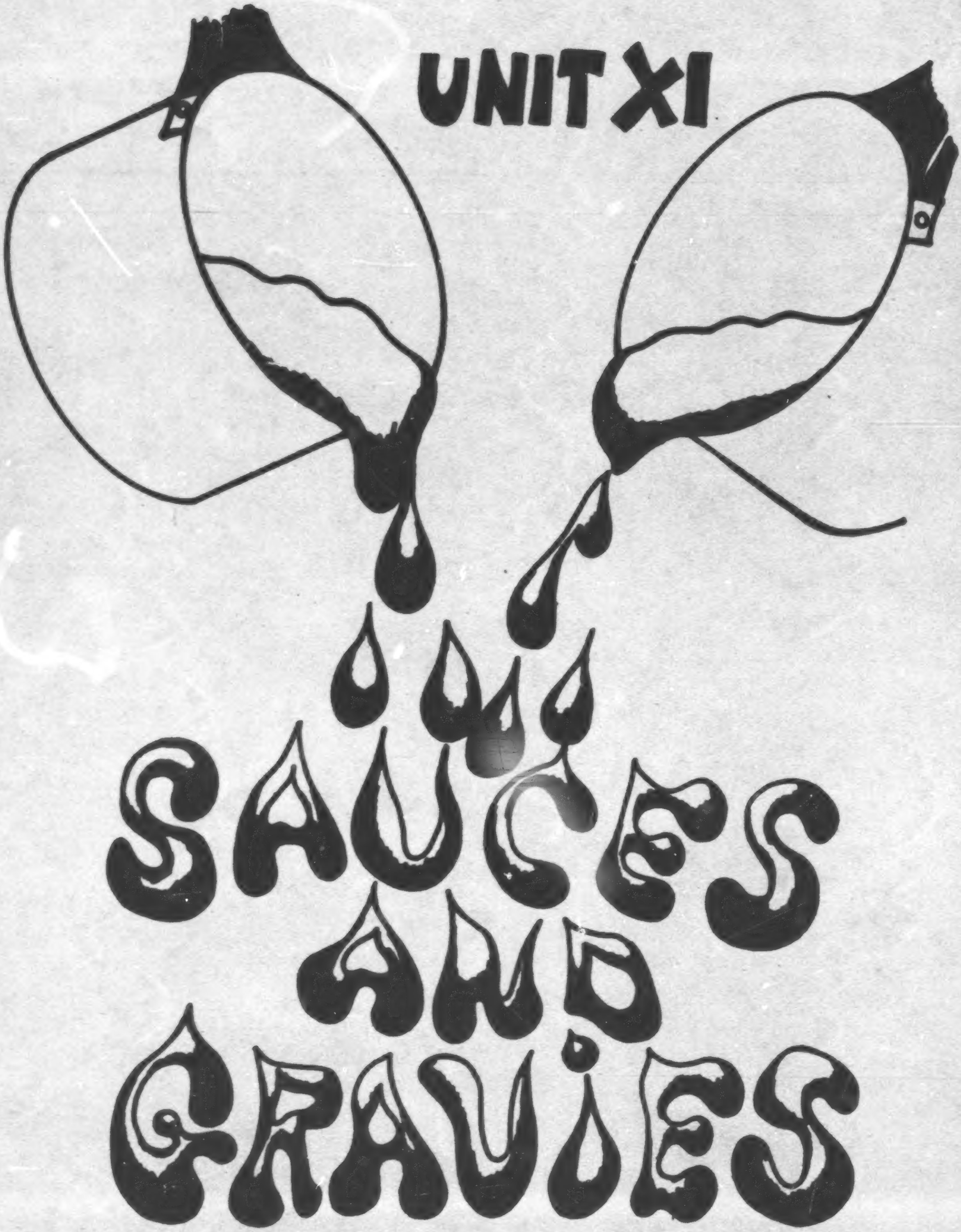
In America, a wheat base called semolina is used to manufacture pasta. The family of pasta includes spaghetti, macaroni, and noodles. The shape or the way it is molded determines the name of the macaroni. Pasta preparation is quite simple, but the variety of ways it can be served are numerous. All pasta, like rice, is cooked in a liquid until tender, yet firm to the bite, or "al dente."

Rice and pasta are delicious served with any part of the meal.

Vocabulary

bland	– mild rather than sharp or strong (in taste)
bran	– outer coat of the seed or a cereal grain, generally removed from the grain in the milling process.
contaminate	– to make unfit for use by coming in contact with vermin or dirt or spoiled goods. Contaminated food should not be eaten.
pasta	– a dried paste, like spaghetti, or a fresh, soft dough, like ravioli.
reconstitute	– to reform, recompose; to return to a previous condition. When moisture is added to dehydrated products they are said to be reconstituted.
rice	– a type of cereal grain used for food. It is an annual, that is, seed has to be planted each year to get a crop.
rotation	– using in proper order, ("first in, first out") so that spoilage does not occur
staple	– a food item that is used very often by many individuals
vermin	– fast-breeding pests, such as bugs, worms, and other small animals which are difficult to control

UNIT XI



SAUCES AND GRAVIES

The finishing touch

Students preparing Brown Sauce to complement meat loaf

Sauces and gravies are the finishing touch for properly prepared meats, poultry, and fish. Desserts often have sauces added for more taste and eye-appeal. This section will be devoted to the five basic sauces – brown, white, pale, tomato, and yellow.

Sauces are made to enhance the taste of a food or to add a stimulating flavor. They can be used as a base, or they can be served beside or on top of a food item as a liquid garnish. It is even acceptable to serve the sauce separately in a sauce dish to be used as the customer desires.

A chef should not be classified as skilled until he is able to make sauces. A sauce cook (saucier) is a position of high rank in any fine hotel or restaurant. This job requires a good deal of skill and experience. Because of this, the saucier is usually next in line to the roundsman, or sous chef, who is himself the head man under the executive chef.

Sauces may number in the hundreds and vary in the ingredients, where they are made, who makes them, and what special events govern their making. There are many variations of sauces, but there are only a few foundation sauces, and it is at this base that we will begin.

The foundation sauces are also called "mother" sauces and fall into these categories:

Espagnole (brown sauce)
Cream (white sauce)
Tomato (red sauce)
Veloute (pale or blond sauce)
Hollandaise (yellow sauce)

All other sauces made from the mother sauces are called small sauces.

Before we begin to make sauces, it is important for us to know about two things, stocks and thickening agents.

Stocks are used as bases for sauces and soups and can be reduced to serve as a glaze for meat products. To make a good stock is an art and should be treated as such. The finished sauce can be no better than the stock you made in the first place.

Brown stock

Beef bones are broken or sawed into small pieces, placed in a roasting pan, and allowed to brown evenly in a moderately hot oven of 375°–400°F. After the browning has taken place, add tomato paste or puree. When caramelization begins, add roughly-cut mirepoix and continue to brown. Turn once and brown again, being careful to prevent burning. Remove from the oven and transfer to a large stock pot with a heavy bottom and lid. Add cold water and a bouquet garni, and bring to a boil slowly. Simmer gently until the liquid is reduced, at which time more cold water may be added. As the temperature of the liquid rises, an infusion takes place, and the fine delicate flavors from the bones and vegetables are imparted to the liquid. Now the brown stock can be used to make soup and sauces, or it may be reduced to make a glaze. Strain and cool in a cold water bath, and place in the refrigerator to be used as needed.

Pale stock or blond stock

Using fish, veal, pork, lamb, or fowl bones which are broken into small pieces and placed into a large stock pot, a pale stock may be obtained with the addition of cold water. This stock is brought to a boil and then simmered for 3 hours. Vegetables and a bouquet garni are added for their flavors. If necessary, add more cold water to maintain the desired quantity of stock. The long hours of cooking will produce a gelatinous liquid, which is a good indication of a fine, rich stock.

A fish or seafood stock may be made in the same manner, except that the cooking time is reduced to a maximum of one hour.

Thickening agents

The basic starches used as thickening agents are:

flour
cornstarch
tapioca and rice
arrowroot
waxy maize
potato starch

Flour and cornstarch are the primary thickening agents used in sauce preparations. Flour can be used to prepare a roux or to mix a whitewash. This whitewash is a combination of thickening agent and cold liquid and is used to thicken stews, veloutes, stocks, and fricassees. The ingredients can be cornstarch or flour mixed well with cold liquid and poured into a boiling stock while stirring rapidly.

When a sauce is to be sweet or semi-clear, cornstarch, tapioca, or arrowroot should be used. Tapioca is difficult to use, as it lumps easily. Arrowroot is a very fine product which produces a clear sauce, but it is expensive to use and therefore it is not as frequently called for in recipes.

The packaging of sauces in cans and frozen products has brought about the use of waxy maize as a thickening agent. It has good reheating qualities, it keeps well, and it gives a fine appearance when it is served. Flour can cause a sauce to lose its delicate appearance, and cornstarch has a tendency to break down and become watery upon being reheated.

Cornstarch has twice the thickening power of flour. The formula below is helpful when working with small quantities up to 3 gallons. If the quantity exceeds 3 gallons, the proportion of starch to liquid has to be slightly reduced. When a sweet sauce is to be thickened, additional cornstarch may be needed, as sugar will reduce its thickening power. For this reason, always add sugar after thickening has taken place.

Medium-thick sauces:

Flour	Cornstarch	Stock
2 Tbsp	1 Tbsp	1 C
½ C	¼ C	1 qt
2 C	1 C	1 gal
2 qt	1 qt	5 gal

The humidity of the storage area and the variety of the starch used will also affect the thickening ability of the starch. When a thin sauce is needed, you may use half the amount of thickening agent. For a thick sauce or croquette base, twice as much starch may be used.

Potato starch is used in special recipes, but not so frequently as to be found in every kitchen or storeroom.

Starches lump very easily when cooking. To prevent this lumping, starches must be mixed with *hot* fats, *cold* liquids, or sugar. When a starch is mixed with a hot fat, such as shortening or butter, the mixture is called a roux. When a starch is mixed with a cold liquid like water, stock, or milk, the mixture is called a whitewash. Both roux and whitewash are suitable thickening agents for soups, sauces, stews, and gravies.

Roux

The roux is usually the thickening agent for sauces. There are three types – brown, pale, and white. The color is the main difference, although the cooking times also vary. When flour is browned, its thickening power is reduced.

The roux is a combination of fat and flour of equal parts by weight, not by volume. For example:

2 c. flour = ½ pound
1 cup oil or fat = ½ pound
1 gal. stock = 8 pounds
9 pounds

With evaporation, the yield is still approximately one gallon.

A brown roux is made by first browning the flour, either in the oven or in a pot on the stove. After the flour is browned, it is mixed with hot fat and cooked for 15 to 20 minutes. Burning or overcooking of the fat and flour mixture must be avoided at all cost, as this will make the roux quite bitter and so spoil the final sauce.

The pale roux is also made with flour and hot fat. This roux is finished when the flour has just begun to change color and the odor is slightly changed. To further cook this roux, it should be placed in a bain marie. The pale roux is blended with pale stock to make velouté, which is a base for fricassee, pot pies, and smaller sauces.

The white roux is the simplest, although great care should be taken not to brown it at all. It should be cooked only long enough for the raw-starch taste to disappear. This roux is used to thicken cream sauces, bechamel sauce, and white sauce from which smaller sauces are made. This roux is made by blending flour and hot fat in a double boiler or in a bain marie. These methods will prevent overcooking.

Making the sauce

So, now that we have made the stock and roux, all we have to do is combine them in the proper proportions to produce our basic sauce.

For a brown sauce we would use brown stock and brown roux. You may wish to enrich the flavor by adding herbs and spices, or you may strengthen it by reducing it in volume.

The pale sauce, or velouté, is a combination of pale roux or whitewash and pale stock in the proper proportions. This sauce may be strengthened by the addition of a white mirepoix sauteed in butter and cooked in the sauce as it reduces. Strain the sauce if necessary before serving it over the meat or vegetable for which it was made.

Cream or white sauces are made with a white roux which has been cooked in a bain marie or double-boiler to prevent scorching. To the roux is added scalded milk in small amounts, while stirring and mixing well. Continuous mixing is important to prevent lumping and to produce a smooth white sauce. This sauce should be cooked long enough so that the starch taste will not be there. An onion pique may be used to spice the sauce, but it must be removed before serving.

Cream sauce and bechamel sauce differ in that the latter is flavored with the essence of either veal or chicken. This flavor may be infused by sauteing or sweating the meat and cooking it in the sauce. The sauce is then seasoned and strained. This is a perfect French sauce and can be used to prepare many smaller sauces, such as bonne femme, egg sauce, and supreme sauce, with the addition of heavy cream.

The tomato sauce is a little different. Its preparation must be explained, although it is basically a thickened tomato stock, prepared much like a brown sauce.

A mirepoix is sauteed and allowed to sweat and become tender. The fat used will depend on the finished product that is desired. Dust mirepoix and fat with flour to catch up the fat, then add mashed or broken tomatoes and their liquid. Stir often to prevent burning. Add tomato paste and/or puree, along with the chosen broth or stock. Bring these ingredients to a boil and simmer until sauce has lost its raw tomato taste. Season with spices, herbs, and sugar to taste. Let the spices remain cooking in the sauce for only 30 minutes. Thicken with a whitewash, if necessary. Strain or puree, and serve with meat or vegetables.

When this sauce is combined in equal parts with a brown sauce and the volume is reduced by half, it is called a demi-glace.

Gravy

Gravies are made when fats are extracted from meats and made into a roux. Water or stock is added to this roux, along with meat juices, and then stirred to a smooth consistency. The use of a heavy skillet is best. The right amount of flour is added and allowed to brown while stirring to prevent burning. When the right color is obtained, a cold liquid is stirred in and brought to the boil. The gravy is allowed to simmer for twenty or more minutes until the flour is cooked. Seasoning is added to taste, and the gravy is now ready to be served with the meat as a liquid garnish.

Hollandaise sauce

Hollandaise sauce is the last, but not the least, of the five major sauces to be discussed. It is prepared and used so differently that we must speak of it separately. Hollandaise is almost like a cooked egg-yolk dressing. It is served warm over vegetables such as broccoli, asparagus, and baked potatoes. It may also be served over poached eggs. When it is used with meats or seafoods, hollandaise is usually blended into a refined smaller sauce like bearnaise sauce, mousseline sauce, or mornay sauce.

Hollandaise sauce is prepared by first gathering all the essentials together, – mise en place. The butter must be clarified and the egg yolks separated from the egg whites. Only the yolks will be used in the preparation of this fine sauce.

Let us make the sauce. Place the yolks and a few drops of water in a small bowl and mix well. Beat lightly until foamy, then place the bowl over hot water. Remove the bowl from the hot water and slowly add the clarified butter. When the butter has been absorbed, yielding an emulsion, stir in the remaining seasonings of salt, tabasco sauce, and lemon juice. You are finished, and if you have produced a light, delicate sauce free of lumps, serve it with pleasure.

Any type of viand may be made more pleasing or enhanced by the addition of a well-prepared and delicately flavored sauce. Each sauce must stand alone and have its own distinctive scent and taste. No chef in his right mind would ever serve pork gravy over beef. How do *you* qualify?

Summary

Sauces and gravies are liquid garnishes used as finishing touches to complement properly prepared foods. Large feeding establishments may employ a special person to prepare all sauces. This person usually has such skill and is of such importance that he will be third in command.

Sauces are made from liquid stocks and thickening agents. The quality of the stocks and thickening agents are of prime importance. Brown stock is made from oven-browned beef bones and vegetables. Cold water is added and brought to a boil and allowed to simmer for a long period of time. Pale stocks used to make blond or velouté sauces are made from bones and carcasses of chickens, veal, or pork (light meats), without browning.

The most common thickening agents are flour and cornstarch. They are combined with hot fats or cold liquids before adding to hot stocks. If added directly to hot stocks, lumping will occur. Two cups of flour are needed to make one gallon of medium sauce. The thickening agent may be increased or reduced, according to the desired thickness.

The roux is a combination of fat and flour of equal parts by weight, not by volume. It may be brown, pale, or white.

There are five basic sauces, or mother sauces, as they are sometimes called.

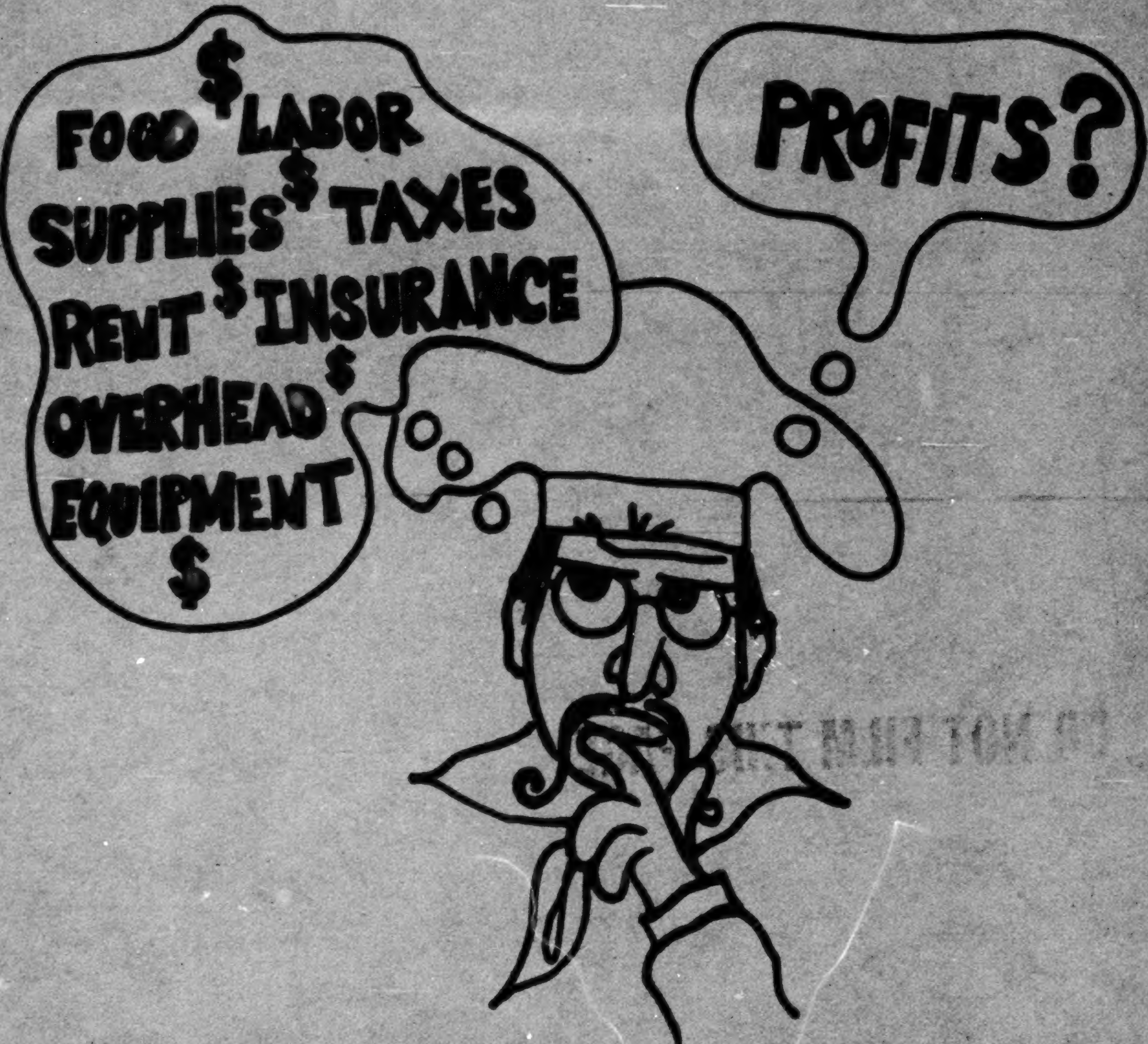
Brown sauce – espagnole
White sauce – cream
Blonde sauce – velouté
Red sauce – tomato
Yellow sauce – hollandaise

The hollandaise sauce requires eggs as its thickening agent. As we have seen, the thickening power of eggs is used often in various types of cooking.

Gravies are made from meat fats, drippings, and juices from prepared meats.

Vocabulary

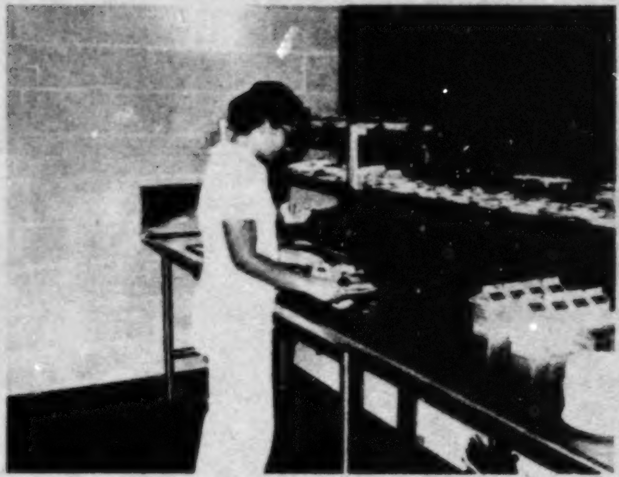
bain marie	– a hot- or cold-water bath used to either heat or chill containers of foods. Boiling water or ice may be used.
bouquet garni	– a bunch of fresh herbs tied together, to be used in cooking and later removed
caramelize	– to brown sugar, or foods which have a lot of sugar in them, by heating to high temperatures
clarify (butter)	– to melt butter and remove the salty, watery whey from the butterfat
emulsion	– two or more products so well blended that they do not easily separate. The droplets stay in suspension.
enhance	– to make more attractive or more desirable; to improve; to make better
espagnole	– a rich brown sauce made of meat, vegetables, and seasonings
garnish	– to add decorative or savory touches to foods
gelatinous	– forming a jelly (upon cooling)
infusion	– a liquid obtained by slowly heating raw foods in water to extract their flavors
mirepoix	– a combination of base vegetables, generally onions, carrots, celery, and seasonings used in various preparations to lend their good flavors. The size and type of cut is determined by the intended use, i.e., the mirepoix may be ground or diced.
mise-en-place	– the general name given to all the fundamental materials, utensils, and preparations needed to prepare any recipe.
onion pique	– a peeled whole onion stuck with bay leaves and pierced with cloves; a special seasoning agent.
roux	– a thickening agent for gravies and sauces, composed of hot fat and flour of equal parts by weight.
saucier	– the chef assigned to sauce making
stimulating	– exciting one's appetite by causing the salivary glands inside the mouth to secrete.
veloute	– a smooth, creamy white sauce made by combining stock and roux.
viand	– any article of food
waxy maize	– a special cornstarch-type thickening agent. Used especially in food-freezing processes, because when reheated it does not break down like some other starches.
whitewash	– a combination of starch and cold liquid used as a thickening agent.


FOOD $ LABOR $ SUPPLIES $ TAXES RENT $ INSURANCE $ OVERHEAD EQUIPMENT $
PROFITS?

UNIT XII

COST CONTROL

UNIT XII – COST CONTROL



Sales usually increase with proper display and merchandising of foods.

Why keep records?

Food-business operators often question the necessity of keeping records. They may say, "Why keep a lot of complicated records? I can see what's going on in my business – I'm here every day. Anyway, I'm so busy operating my business I don't have time for keeping records."

But business success and good records seem to go hand in hand. How does the keeping of records lessen the possibility of failure and increase the chances of staying in business and earning profits?

A simple but adequate system will furnish answers to such questions as:

How much business are we doing?
How much were my food costs?
How much were my other expenses?
How much net profit (money after all deductions) did I earn?
What is my investment in the operation?
How much inventory do I have on hand?
How much do I owe others?
How much cash do I have on hand?

It is necessary by law to keep some records to be able to prove fair labor practices and payment of the right amount of taxes.

Labor costs

How much does labor actually cost? The answer to this lies in the following:

How much do I pay per hour per employee?

What are my costs for social security, unemployment insurance, workmen's compensation?
How much do I pay in fringe benefits, such as vacation and sick-time pay?
How much does it cost me to feed and clothe my employees?
How many hours of work do I actually get for wages paid?

An employee generally measures the money he makes by the amount he takes home, forgetting the value of fringe benefits or his fair share of taxes on money earned. Similarly, many employers forget the other costs besides wages.

All these items must be considered when you develop the percentage of labor costs you wish to maintain. For example, you might discover that, for every dollar taken in, you had the following expenses:

Food costs	$ .30	(30%)
Labor costs	.40	(40%)
Overhead costs	.20	(20%)
	$ .90	(90%)

This indicates that for every $1.00 of gross income taken in, it cost you 90 cents for expenses. But wait – that ten cents is not clear profit by any means. You must pay taxes and liabilities (money owed to others for such things as loans), so your 10 cents (10%) may be cut to 3 cents (3%) net profit. It seems you really have to sell quite a lot to make any real profit, doesn't it? You're right – unless you can find ways to lower your costs.

Food costs

Food costs can be very deceiving, too. It may seem you are paying only a dollar a pound for some kind of meat, but this is not the cost of the meat as you actually serve it.

You may have had to trim perhaps an ounce of fat or bone from each pound. Also, suppose that in cooking the meat lost three more ounces of weight per pound. The final amount available to be served would be 12 ounces. This means the actual cost per pound is higher than $1.00, because 25% of the weight of the meat was lost, and this increased the cost of what was left.

Other things to consider in food costs are items which are not sold and which cannot be reused in any way; meals or snacks eaten by employees but not paid for; and also the possibility of loss due to stealing, spoilage, or food items which cannot be used (burned meat, dropped or spilled food, or other wastage).

Other costs

In addition to the above costs, we must remember it costs money to operate the business:

money for rent or mortgage and real estate taxes
money for equipment

money for china, glassware, and silverware.
money to replace lost, stolen, worn out, or broken equipment
money for insurance on the business
money for electric power to light the place and run the equipment
money to pay interest on the money you borrowed to pay for all the above items.

Summary

Is cost control important? You can bet your last dollar it is! In order to stay in business, you must keep records and have a very good knowledge of what everything is costing you, from the things right before your eyes to many items you never see and can very easily overlook.

When someday you have your own business (we hope), you will be in a better position to make a go of it if you are aware of all the different costs that you will have.

Vocabulary

adequate – enough for your needs

complicated – complex or difficult; usually consisting of many parts.

employee – one who works for wages or salary in the service of an employer

gross income – money taken in by a person or a business before taxes and expenses are considered

investment – money put into a business to get it going or keep it going

net profit – money left for the owner's own use after all taxes and all other expenses have been paid.

UNIT XIII
MEATS
SAUCES
VEGETABLES
RECIPES

WEIGHTS AND MEASURES

All measurements are level

Abbreviations		Equivalents	
teaspoon	tsp	3 tsp	1 tbsp.
tablespoon	tbsp	2 tbsp.	1 lq. oz.
ounce	oz.	8 oz.	1 c.
cup	c.	2 cups	1 pt.
pint	pt.	2 pts.	1 qt.
quart	qt.	4 qts.	1 gal.
gallon	gal.		
pound	lb.	16 oz.	1 lb.
liquid	lq.		
bushel	bu.	8 qts.	1 pk.
peck	pk.	4 pks.	1 bu.

Some Common Measures

2 c sugar	1 lb. (approx.)
4 c flour, sifted	1 lb. (approx.)
2 c butter	1 lb. (approx.)
1 sq. choc	1 oz.
1 stick butter	4 oz.
4 ozs. macaroni	1 c. (approx.)

Cooking Temperatures

simmering water	180° F.
boiling water	212° F.
very slow oven	250° F.
slow oven	300° F.
moderately slow	325° F.
moderate	350° F.
moderately hot	375° F.
hot	400° F.
very hot	450° F. – 500° F.

Metric Equivalents

1 gram	.035	ounce
1 kilogram (kg)	2.2	pounds
1 liter (l)	1.1	quarts

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SAUCES AND GRAVIES

Brown stock – for soup or sauces

Quantity 4 gallons

Ingredients

15 lb. beef bones
5 lb. veal bones
6 gals. water
8 med. onions
1 bunch celery
1 lb. carrots
2 c. tomato paste
3 bay leaves
1 tsp. thyme
5 whole cloves
3 garlic cloves, crushed
10 whole peppercorns, cracked

Equipment

Bone saw
Cleaver
32 qt. stockpot with strainer
Gal. measure
French knife
Qt. and cup measures
Rubber scrapers
Wooden spoons and paddle
Spoon measure
Large roasting pan
Stainless steel container
Cold bain-marie
China cap, very fine
Cheesecloth
5 gal. stockpot

Oven: 400°F.

Preparation

Saw bones in several places and use cleaver to release some of the marrow, as demonstrated by the instructor. Put bones in roasting pan.
Coat bones with tomato paste and pop them into a preheated 400° oven.
When bones are brown, turn them and add the roughly cut vegetables.
Remove from roasting pan when brown and deglaze the pan (by b[illegible]ng water in it until the dried juices loosen in the pan).
Put the browned ingredients in the heavy stock pot, along with the deglazed juices and the rest of the 6 gal. of water.
Bring all these to a boil. Reduce the heat to allow simmering.
Skim off the scum. Simmer for 5 to 6 hours. Stir occasionally with wooden paddle. Add spices during last half-hour of cooking.
Strain through china cap into 5-gal. stockpot and chill as rapidly as possible.
Store in stainless steel container in refrigerator until ready to use.

This stock may be used for the basic brown sauce (espagnole) or as a base for beef soups. If reduced to a heavy consistency, it may be used for a glaze or as a beef base.

Avoid: Burning the bones.
Improper straining of the stock.
Cooking the spices too long, because they might become bitter.
Boiling the stock. It will homogenize the fat and liquid.

Small Sauces from Brown Stock

Garnishes to be added to the basic brown stock to make small sauces:

Mushroom sauce

Add 2 pounds of sauteed fresh mushrooms or three 12-oz. cans (drained). Reduce the liquor and return to sauce.

Jardiniere Sauce

Cut vegetables julienne (1" long by ¼" wide). Vegetables include celery, carrots, onions, and peas. All vegetables must be blanched. The vegetables may be mixed in the sauce or sprinkled on the top.

Swiss style

2 gallons of brown stock, 1 #10 can of chopped tomatoes. Sauteed and lightly browned mirepoix, finely chopped: 4 cups onions, 3 cups carrots, 3 cups celery. Adjust seasoning.

Stroganoff

Saute and sweat 3 quarts of onions, and on top of that 2 lb. mushrooms. Add 1 qt. of sour cream and 1 tbsp of black pepper. Add 2 gallons brown stock.

Lyonnaise Sauce

To 2 gallons of brown stock, add 1 gallon of sauteed browned onions.

Robert Sauce

Quantity 3 cups

Ingredients

1 med. onion, minced
4 tbsp. butter
½ c. white wine
1 tbsp. tomato paste
3 c. brown stock
2 tbsp. flour, all-purpose
1 tsp. mustard, dry
½ tsp. sugar
1 tbsp. meat glaze

Equipment

Small saucepans
Cutting board
Measuring equipment
Wooden spoon
Wire whisk
French knife

Preparation

Reduce wine to half in a saucepan. Add brown stock, boil ½-hour. Hold.
Gently fry minced onions in butter. Do not brown.
Dust onions with flour, making a roux. Remove from heat.
Stir in the tomato paste, mustard, and sugar.
Being careful not to form lumps, stir in the brown stock mixture.
Bring to the boiling point and let simmer 5 minutes.
Taste and add the meat glaze.
Serve as directed.

Cream Sauce (Thin, Medium, or Thick)

Quantity 1 gallon

Ingredients

1 gallon scalded milk

Thin white sauce:
- 1 cup butter
- 1 cup flour

Medium white sauce:
- 2 cups butter
- 2 cups flour

Thick or heavy cream sauce:
- 4 cups butter
- 4 cups flour

Salt and white pepper to taste.

Equipment

Student should determine the essential utensils.

Preparation

Melt butter in top of double boiler.
Add the flour and stir until smooth.
Let cook for 30 minutes covered. (Do not allow to brown.)
Add hot milk rapidly while stirring briskly with a wire whip.
Cover and allow to cook for another 15 minutes.
Strain through a cheesecloth if extra smoothness is desirable.
Season to taste.

Hollandaise Sauce

Quantity 3 cups

Ingredients

2 c. butter, clarified
6 egg yolks, lightly beaten
⅓ c. lemon juice
Few grains cayenne pepper
¾ tsp. salt

Equipment

2-quart bowl, stainless steel
Wire whip or electric beater
Rubber scraper
Cup measure
Hot-water bath

Preparation

Heat butter and keep warm in a bowl over hot water (not boiling).
Slowly beat in egg yolks, lemon juice, a few grains of cayenne pepper, and salt.
Continue to beat until thickened.
Hold in a warm place until served. (Do not hold longer than an hour.)

Tomato Sauce

Quantity 2 gallons

Ingredients

1 #10 can tomatoes
½ #10 can tomato puree
1 qt. onions, chopped
3 c. celery, chopped
2 c. carrots, chopped
½ c. olive oil
¼ lb. butter
12 tbsp. sugar
Salt and pepper to taste
Other spices and herbs
6 tbsp. parsley, chopped
1 qt. ham stock
½ c. flour

Equipment

4-gal. pot, heavy
Wooden paddle
Food mill
Rubber scraper
Large ladle

Preparation

Saute celery, carrots, and onions in oil and butter until tender.
Dust with flour and stir to make light roux.
Chop the tomatoes, and add to pot with all other ingredients.
Stir and bring to a boil.
Reduce the heat and simmer in the covered pot for 40 minutes.
Stir occasionally to prevent scorching.
Adjust seasoning and serve as instructed.
It may be necessary to puree before serving.

Creole Sauce

Quantity 1 gallon

Ingredients

1 #10 can tomatoes
3 c. onions, shredded
3 c. green peppers, julienne
12-ounce can mushrooms
6 tbsp. cornstarch
½ c. sherry
¼ c. sugar
1 tbsp. salt
½ tsp. nutmeg

Equipment

Student should list the necessary utensils.

Preparation

Drain tomatoes and chop. Bring to a boil with the juice.
Reduce the heat and simmer for ½ hour.
Prepare a whitewash by combining the sherry, sugar, cornstarch, and mushroom juice.
Add the thickening agent to the tomatoes while stirring to prevent lumping and scorching.
Blanch the onions and green peppers just enough to make them wilt.
Add the vegetables and all other ingredients to the sauce.
Remove from the heat and adjust the seasoning.

Tartar Sauce

Quantity 1 gallon

Ingredients

3 qts. mayonnaise
2 c. green peppers, chopped
2 c. onions, chopped
3 c. dill relish
3 tbsp. lemon juice
1 tbsp. worcestershire sauce
Few drops Tabasco sauce
1 c. stuffed olives, broken (optional)

Equipment

Stainless steel bowl
Wooden spoon
Rubber scraper
Strainer

Preparation

Finely chop the onions and peppers.
Press and drain off the juices. (Save for stock pot.)
Press the relish and put into a bowl with the onions and peppers.
Add all other ingredients.
Stir and adjust seasoning if necessary.

Pan Gravy

Quantity 3 gallons

Ingredients

3 gals. stock, hot
6 c. flour
3 c. fat
Salt and pepper to taste

Equipment

Heavy 5- or 6-gallon pot
Wire whip
Wooden spoon
Rubber scraper

Preparation

Put stock in a pot and bring to a boil.
Prepare a roux with the flour and fat.
Add roux to the stock, or vice-versa.
Cook for at least 20 minutes, stirring occasionally.
Adjust the seasoning to taste.

Braised Beef Steak a la Stroganoff

Quantity 40 4oz. servings

Ingredients

40 4 oz. cubed steaks (about 10 lb.)
1½ lb. all purpose flour
1 tbsp. salt
2 tsp. pepper
1 qt. oil
10 med. onions
2 lb. mushrooms
1 gal. brown stock
2 pts. sour cream
Salt and freshly ground pepper
2 c. burgundy wine

Equipment

Quart and cup measures
Spoon measures
China cap
French knife
Braising pan
2 gal. saucepan
Wooden spoon
Pepper mill
Large roasting pan
Rubber scraper

Preperation

Mix flour with the salt and pepper.
Press the seasoned flour into the cubed steaks. Shake off the excess.
Saute rapidly until golden brown, and put into large roasting pan.
Stack them loosely and on a slant. Heat brown stock, bring to boil, and reduce.
Thicken the brown stock with whitewash made with 2 c. flour and 2 c. wine.
Saute and sweat the onions. Add the mushrooms and simmer for 3 minutes.
Hold the vegetables until ready to combine all ingredients together.
Now – pop the steaks into the oven at 350°F. When meat is hot, add the brown sauce.
When reduced and boiling in the oven, add the onions and mushrooms.
Taste the sauce and adjust flavor with extra freshly-ground pepper.
Just before serving, add the sour cream. Mix thoroughly. Do not reboil. Serve as demonstrated by the instructor.

Avoid: Overcooking at any point of operation
Lumps in the whitewash and sauce
Burning any of the foods
Boiling after sour cream has been added (separation may occur).

Stroganoff sauce may be served with any beef that is tender enough to saute.

Braised Cubed Beef Steak – Swiss Style

Quantity 40 servings

Ingredients

15 lb. round steaks (40/ 6oz. – ½"cut)
1 lb. all-purpose flour
Salt and pepper to taste
1 qt. oil
4 c. celery, ½" dice
3 c. onions diced ½"
2½ c. carrots, diced ½"
1 qt. tomatoes, crushed
2 c. tomato puree
1 gal. water or brown stock
2 cloves garlic, minced
Season to taste with salt, pepper, bayleaf, thyme, worcestershire sauce; a spice bag may be used.

Equipment

Butcher knife
Cuber
Quart measures
Frying pan or grill
French knife
Measuring cups and spoons
Food mill
Cheesecloth
Wooden spoon
Tongs or kitchen fork
Heavy 4-gal. stockpot
Roasting pan with lid
Small roasting pan

Oven 300°F.

Preparation

Using 1 cup of the oil, saute the celery, carrots, and onions in a 2-gal. heavy stockpot. If they brown a little, the flavor will be increased. Do not burn!

Dust the sweated vegetables with 1 cup of the flour, mixing well.

Continue mixing and add tomato puree and crushed tomatoes.

Before the sauce thickens, add 1 gal. of brown stock or water.

Let these simmer together. When vegetables are almost cooked, add minced garlic and other spices (in spice bag, if desired).

Cook for ½ hour and remove the bag.

In the meantime, pound and cube the steaks to tenderize them.

Season the rest of the flour, and in a small baking pan, press the flour into the pieces of meat. Fry the meat quickly on a grill or in a heavy frying pan until brown. The instructor will demonstrate the browning process.

Place the browned meat into a large roasting pan with lid. Cover generously with prepared sauce and braise until tender. Adjust the sauce before serving and garnishing as explained by the instructor.

Oven may be used to braise the meat; if so, use 300°F. 3 hours minimum cooking time is required.

Meat may be cooked the day before it is to be used.

Chopped Sirloin Steak – Broiled

Quantity 20 8-oz. portions

Ingredients

10 lb. ground sirloin
garlic salt
Freshly ground pepper
1 c. tomato juice

Equipment

Sheet pan
Spatula
Cup measure
Spoon measure
Scale
6 oz. scoop

Broiler: Maximum heat

Preparation

Put ground sirloin into bowl and season with salt and pepper to taste.
Add the tomato juice; mix thoroughly.
Divide into 20 balls and shape 1 inch thick like a chop.
Place on the sheet pan.
Score with a knife or burn marks with electric coils of broiler.
Broil steaks about six inches from the source of heat, turning once.
Cook until desired doneness is reached.
Steak should be slightly undercooked because it will continue to cook after being removed from the broiler.
Garnish and serve with or without sauce as instructed by the teacher.

Avoid: Overcooking
Cutting too deeply when scoring.

Creamed Dried Beef

Quantity 50 5-oz. servings

Ingredients

1½ gal. milk
4 c. flour
1 lb. butter
3 lb. dried beef
Dash cayenne
salt and white pepper to taste

Equipment

Double boiler or steam kettle
Wooden spoon
Wire whip
Rubber scraper
French knife
4 qt. saucepan
China cap
2 qt. container
1 qt. measure
Deep steamtable pan

Preparation

Scald milk in steamkettle or double boiler. Be careful that milk does not boil over.

Prepare a roux with melted butter and flour. Let cook in saucepan while stirring. Do not brown.

After the roux has cooked for a minimum of 10 minutes, combine with scalded milk. Use whip to blend. Stir often with wooden spoon and rubber scraper while sauce cooks slowly.

Cut dried beef in 1" squares with french knife. Put the cut-up pieces into the saucepan that once held the roux. This will save the pot-washing detail.

Cover the meat with hot water and let stand until sauce is ready. The hot water removes some of the extra salt in the meat.

When the sauce is done, strain the meat and hold the stock in case the sauce needs more salt and liquid.

Add the meat to the sauce and stir.

Season to taste with salt, pepper, and a dash of cayenne.

Serve as demonstrated by the instructor.

Meat Loaf

Quantity 50 5-oz. servings

Ingredients

15 lb. ground sirloin or chuck
1 loaf white bread, ½"diced
1 qt. whole tomatoes
3 c. minced celery
1 qt. minced onions
2 green peppers
8 eggs
1 pt. milk or water
1½ tbsp. salt
1 tbsp. pepper, freshly ground
½ c. chopped parsley
Other spices or herbs to taste

Equipment

French knife
Baker's scale
Quart measure
Spoon measure
Rubber scraper
Spatula
Baking pans
Mixing machine with grinding parts
Mixing paddle and bowl
Tray for tools and materials

Oven 350°F.

Preparation

Combine bread, salt, pepper, and spices in mixing bowl.
Grind tomatoes, celery, onions, and peppers together.
Add the ground mixture, milk, and eggs to dry ingredients and mix.
Add ground beef and continue to mix well.
Scale three 7-lb. meat loaves and place each in a baking pan.
Bake in oven at 350°F. for 1½ hours.
Remove from oven and let stand in warm place for ½-hour before serving.

Variations:

Vienna Loaf: replace 5 lb. of ground beef with 5 lb. of ground veal. All other ingredients remain the same.

Before cooking loaves, make a well in the center and place hard-cooked eggs inside end-to-end. Fold the sides of the well over and seal by pressing seam together. Put the seam down toward the bottom of the baking pan and bake for 1 hour. When molding be careful not to force eggs out of position.

Roast Top Round of Beef

Quantity 50 Servings

Ingredients

25 lb. top round of beef
3 med. onions
4 stalks celery
4 carrots
2 c. stock or water
salt and pepper

Equipment

Roasting pan
Kitchen fork
French knife
Paring knife
Quart measure
Gallon saucepan
Wooden spoon
Wooden scraper
Scale
China cap
Ladle
Butcher's twine
Boning knife
Steamtable pan
Slicing machine or roast slicer

Oven 350°F.

Preparation

Prepare after instructor's demonstration.
Trim meat and remove cover of fat in a fashion so it can be replaced.
Replace fat, tie with twine, and season lightly.
Place meat in roasting pan, fat side up, and pop it in the oven.
When roast is partially cooked, add roughly-cut vegetables.
At this time, ½ cup of tomato puree is optional.
When vegetables are browned, add stock or water.
Roast will require about 2½ to 3 hours cooking time. Reduce temperature to 300°F. after about 1½ hours.
When roast has reached the desired doneness, remove to steamtable pan and keep warm.
Strain stock and vegetables into stockpot. Cook down (reduce).
Season to taste. Serve sauce over sliced roast beef, as demonstrated by the instructor.

Avoid: Excessive shrinkage due to high roasting temperature.
Burned drippings. Add liquid if pan becomes dry.
Hot fat and burns when pouring off liquids.

Salisbury Steak

Quantity 50 5-oz. servings

Ingredients	Equipment
15 lb. ground beef, chuck	Mixing bowls
1 qt. minced onion	French knife or food grinder
2 cloves garlic	Cutting board
2 c. finely chopped parsley	Scale
6 eggs	Cup measure
salt and pepper to taste	

Preparation

Mince onion, garlic, and parsley with french knife and mix with slightly-beaten eggs. Vegetables may be ground.

Add these ingredients to the ground beef and mix thoroughly, after adjusting seasonings.

Scale steaks at 5 ozs. Shape into ovals with palm of hands.

Flatten slightly.

These steaks may be baked at a high temperature on sheet pans, broiled, or sauteed in oil.

Serve with a sauce or braised onions.

Avoid: Overcooking
Undermixing

Yankee Pot Roast

Quantity 50 4-oz. servings

Ingredients

23 lb. bottom round
4 large onions
4 carrots
4 celery stalks
4 c. all-purpose flour
1 c. tomato paste
2 tomatoes, crushed
6 qts. brown stock or water
2 bayleaves
½ tsp. thyme
10 peppercorns
8 cloves, whole
3 garlic cloves, crushed
salt to taste

Equipment

Boning knife
French knife
Vegetable peeler
Quart measure
Cup and spoon measures
4-gal. stockpot
Large roasting pan
Cheesecloth
Kitchen fork
Wooden spoon
Cutting board
Scale
Slicer
China cap
Steamtable pan
3-gal. stainless steel container
Ladle

Oven: 400°F.

Preparation

The instructor will demonstrate the proper way to break down a round.
The difference between the top and the bottom round will be explained.
In this case, the bottom part of the round will be trimmed, cut into sections, and tied as demonstrated.

Place meat in a large roasting pan and put in a 400° oven. When hot, coat with the tomato paste and brown. Turn meat if necessary.
While the meat browns, roughly cut celery, carrots, and onions. Crush the tomatoes.
Heat brown stock. Make spice bag for spices and herbs.
Sprinkle the flour on the browned meat and make a roux. Soak up fat.
Add the vegetables and let brown. When this has taken place, pour on the water or stock.
Cover and continue to cook about 2 hours or until tender.
Remove meat and keep in a cool place until ready to heat and serve.
This meat will slice better if it is cool.
Strain the sauce and adjust the seasoning and flavor.
If desirable, blanch the garnish and add to sauce just before serving.
Serve as instructed by the teacher.

Avoid: Burning meat or hands.
Improper lifting of heavy containers

Calves Liver and Bacon

Quantity 50 servings

Ingredients

16 lbs. calves liver
1 qt. vegetable oil
salt as desired
50 pieces of bacon, precooked

Equipment

Frying pan
Cook's fork
Utensil tray
Towels
Slicer

Preparation

Skin the liver and remove the veins.

If partially frozen (just enough to be firm) liver will be easier to slice. Slice the liver on the bias, approximately 3/8-inch thick.

Pour oil into large frying pan to a depth of ¼ inch, and heat.

Salt or season the liver.

Saute in hot oil.

Cook until brown on underside, then turn to finish cooking on the other side.

Serve with bacon.

Precautions:

If the pan is too hot the liver will burn, although the cooking process should be fast.

Liver should be done when just pink inside, unless requested well done.

When cooked in advance, it will toughen and dry.

Cook liver to order.

Sometimes there may be a need to dry liver on towel to remove excess oil.

Variations:

Liver may be floured before sauteing. If broiled, a light coat of oil is needed to give it moisture and to prevent sticking.

Sauteed Breaded Veal Cutlet

Quantity 40 4-oz. servings

Ingredients

10 lb. veal cutlets, frozen, 4 oz. ea.
5 lb. green crumbs
2 lb. all-purpose flour
1 qt. milk
4 eggs
Oil for frying
Salt and pepper to taste

Equipment

Trays
Skillets, 12" or 14"
Tongs (3)
Bowls for flour, dip, and crumbs
Degreasing paper or towel
Wire whip

Preparation

Proceed as demonstrated by the instructor.
If recommended by dealer, keep produce frozen during preparation.
Pour fresh green crumbs into one bowl.
Pour dusting flour into another bowl. Season if desired.
Break eggs into remaining bowl and mix lightly with whip. Add milk and blend well.
Coat frozen cutlets with flour mixture, and remove excess. Coat with egg and milk mixture. Let excess liquid drip off before coating with crumbs.
Press hard to insure that crumbs hold on tightly. Shake off excess.
Store on tray in freezer until ready to saute.
Add enough oil in skillet to prevent sticking, and heat.
Saute cutlets on one side and then the other. Try to turn just once.
If product is cooking too fast, reduce heat.
If cooking too slowly, the product will absorb too much fat and taste greasy.
After sauteing, remove from fat and degrease on towel before serving.

Veal Parmegiana – Place highly seasoned tomato sauce and mozzarella cheese on top of the fried cutlet. Bake or broil to heat, brown, and serve. Sprinkle with parmesan cheese.

Avoid: Splashing hot fat.
Burning the product.
Starting in cold fat.

Breaded Veal Cutlet, Fried

Quantity 50 servings

Ingredients

- 50 veal cutlets, approx. 4 oz. ea.
- 2 lb. bread flour
- Salt and pepper to taste
- 6 eggs
- 1 qt. milk
- Salad oil as needed
- 3 lb. bread crumbs

Equipment

- Butcher's knife
- Boning knife
- Butcher's mallet
- Frying equipment
- Paper for draining
- Roast and sheet pans
- Breading equipment
- Tongs
- Cook's fork
- Portion scale

Preparation

When preportioned cutlets are not used, they must be cut from a boneless leg of veal.
Cut uniform portions, approximately ¼-inch thick.
Place cutlets on a butcher's block and flatten with mallet to break down the tissues.
Coat with flour, salt, and pepper; dip them in the egg wash; then coat with the crumbs.
Fry in deep fat. Cutlets may be sauteed in butter if desired.
During mass production the cutlets may be finished in an oven on sheet pans.

Precaution: Do not destroy the meat with the mallet.

Veal Goulash, Hungarian Style

Quantity 50 servings

Ingredients

17 lb. veal, boneless, trimmed, cut in 1-inch cubes
2 c. oil
5 lb. onions, cut into slivers
½ c. Hungarian paprika
3 c. all-purpose flour
1½ gals. brown stock
2 c. tomato puree
Spice bag: bayleaf, caraway seeds, parsley stems, and peppercorns
Salt and pepper to taste
2 pts. sour cream

Equipment

Student must determine proper utensils.

Oven: 350°F.

Preparation

Brown the meat lightly in hot oil.
Braise together with the onions and reduce the liquid to one-half.
Stir in the paprika.
Stir in the flour, blending well.
Cook for five minutes.
Stir in the tomato puree and then the stock.
Add the spice bag.
Bring to a boil.
Cover and braise in the oven for 1½ hours at 350°F., or until tender.
Adjust the seasoning and hold for service. Serve the sour cream in a side dish.

Variations: Beef or lamb cubes may be substituted.

Lamb Paprikash

Quantity 50 6-oz. servings

Ingredients

15 lb. lamb, shoulder, boneless, cut into 1" cubes.
1 c. oil
1 c. tomato paste
4 c. flour
5 lb. onions, sliced thin
¾ c. paprika
1½ gal. brown stock, heated
Salt and freshly ground pepper to taste

Equipment

Boning knife
French knife
Large roasting pan with lid
Scale
Cups and quart measures
Steamtable pan, deep
Wooden spoons
Ladle
Cutting board

Oven: 400° F.

Preparation

Bone shoulder of lamb as demonstrated, under instructor's supervision.
Cube the boneless shoulder into 1-inch pieces.
Place the pieces into a deep roasting pan and cover with tomato paste and oil.
Place in 400° oven.
Cook and brown for 20 minutes.
Add slivered onions and cook for 5 minutes.
Dust with flour and paprika, reduce heat to 300° F., and cook another 5 minutes.
Stir in flour and add heated brown stock. If not available, use water.
Season to taste and adjust flavor. Cook for 1 hour or until tender.
Serve as suggested by the instructor.

Avoid: Overbrowning meat
Undercooking meat
Lumping of flour
Cuts and burns

This product may be cooked on top of stove in braising pot.

Roast Leg of Lamb – Jardiniere Sauce

Quantity 50 3-oz. servings

Ingredients

30 lb. legs of lamb – approx. 5
4 medium onions
4 carrots
4 celery
1 clove garlic, minced
½ c. tomato puree
1 gal. brown stock
2 c. flour
Salt and pepper to taste
rosemary and/or marjoram (optional)

Jardiniere Garnish: bookmatch size (blanched):
2 c. celery
1 c. onions
2 c. carrots
2 c. peas

Equipment

Roasting pans
French knife
Cutting board
Trays
2-gal. container
Wooden spoon
Wire whip
1-gal. container
Quart measure
Cup and spoon measures
Kitchen forks
2-gal. saucepan
Ladle
China cap

Oven: 325°F.

Preparation

Observe the instructor's technique and then proceed as directed.
Bone and tie legs of lamb.
Place them in the roasting pans, seam down.
Sprinkle lightly with desired seasonings and put in the oven.
As fat begins to accumulate, skim it off with a ladle and save.
When half-done, add roughly cut vegetables and minced garlic.
Remove the meat when it is completely cooked and hold in a warm place.
Dust the remaining vegetables with the flour, stir, and let cook 10 min.
Add the tomato to the roux, and deglaze the roasting pan with stock.
Strain all these ingredients through a china cap, and simmer in stockpot until desired consistency is reached. Adjust the flavor and color. Add jardiniere garnish as needed.
Slice and heat meat to order. Garnish and serve as demonstrated by the instructor.

Baked Stuffed Pork Chops – Sage Apple Dressing

Quantity 50 servings

Ingredients	Equipment
50 pork chops, 1-inch thick	Butcher's knife
2 qts. soft bread crumbs	French knife
1½ qts. canned diced apples	Buffalo chopper
4 med. onions, minced	Saute pan
4 stalks celery, minced	Cutting board
½ c. melted bacon fat	Quart and cup measures
1 tsp. salt	Spoon measures
½ tsp. pepper	Sheet pans
2 tsp. sage	Wooden spoon
	Steamtable pans
	Pastry bag – large tip
	Cleaver
	Oven: 325°F.

Preparation

Trim the pork loin and cut the 1-inch chops as demonstrated by the instructor. A 2-inch slit should be made on the rib side of the chop.

Dressing: Mince the onions and celery in the Buffalo chopper, then saute in the bacon fat.

Mince the diced apples in the food chopper and hold until ready to mix.

Now mix the bread that has been rubbed into crumbs with the sauteed celery and onions and other seasonings. If the mixture is not damp and pasty, add a few drops more of the drained apple juice.

Mix well and put into a large pastry bag.

With the bag filled, follow instructions and fill the cavity in each pork chop.

Brown chops on a grill or in a heavy frying pan.

Place them on sheet pans and put them into 325° oven.

Bake for 30 minutes or until well done and tender.

Remove from the oven and put into steamtable pan.

Serve as demonstrated by the instructor.

Avoid: Cutting yourself or cutting the chop too deeply.
Overbrowning the chops or other ingredients
Having stuffing too dry or too moist
Undercooking the chops

Roast Loin of Pork, Pan Gravy

Quantity Approx. 50 servings

Ingredients

32 lb. fresh pork loin
4 medium onions
4 stalks of celery, rough cut
4 carrots, rough cut
4 tomatoes, rough cut
4 qts. pork stock
2 c. flour, all-purpose
salt and pepper to taste
cloves or allspice (optional)

Equipment

Bone saw
Boning knife
French knife
Cutting board
2-gal. pot for stock
Roasting pans
Quart measure
Kitchen fork
Wire whip
Wooden spoon
Scraper
China cap
Steamtable pan

Oven: 375°F.

Preparation

As demonstrated by the instructor, remove all bones except rib bones.
Cut out tenderloin and save for other preparation.
Remove blade end of loin just above the blade. Season the loin end.

Place loin in roasting pan with vegetables scattered around it, and put into oven. When vegetables begin to brown, reduce the heat and continue to roast at 325°F. until done.
Turn meat to promote even browning.
When meat is completely cooked, well-done, remove to steamtable pan and keep warm.
Remove the fat to the stock pot and add the flour to form a roux.
Strain the liquid from the meat and vegetables, and put enough liquid into the roux to equal 4 quarts of stock, while stirring briskly with the wire whip. Cook the sauce for ½ hour without scorching. Season to taste.

Avoid: Hot splashing fat
Cuts with knives and saw
Burns by using pot holders
Undercooking or overcooking meat

Pork Chow Mein

Quantity 50 servings

Ingredients

- 1 gal. cooked pork, finger-sliced
- 1 gal. celery, sliced on bias
- ½ gal. onion, slivered
- 1 #10 can Chinese vegetables
- 2 #3 cans bean sprouts
- 1 pt. mushrooms
- 1 tbsp. ground ginger
- 1 c. soy sauce
- 2 c. diced ham, sauteed
- MSG to taste
- 2 ½ c. cornstarch
- 3 qts. hot chicken or pork stock
- 1 qt. cold water
- 2 tsp. garlic powder

Equipment

- French knife
- Stockpot, 5 gal.
- 2-qt. container
- Deep steamtable pan
- Quart measure
- Measuring spoons
- Measuring cups
- Kitchen spoon
- Rubber scraper
- Wooden paddle

Preparation

Follow procedure for cutting vegetables and meats as demonstrated by the instructor, and store on tray until ready to mix.

Chinese foods should be served crisp and hot.

Put sliced celery and onions into boiling stock.

Let simmer for 2 minutes. Add pork, Chinese vegetables, bean sprouts, and mushrooms. Return to a boil. Mix cornstarch and water thoroughly to form a whitewash. Add the seasonings to this mixture.

Carefully stir the whitewash mixture into the boiling stockpot. Stir and boil 2 minutes.

Garnish with diced ham.

Serve with rice and Chinese fried noodles.

Roasted Fresh Ham

Quantity 50 3-oz. servings

Ingredients

25 lb. fresh ham
¼ c. garlic salt
¼ c. freshly ground pepper
4 med. onions, rough cut
4 carrots, rough cut
4 celery stalks, rough cut
1 qt. flour
1 gal. brown pork stock or water

Equipment

Cutting board
French knife
Boning knife
Roasting pans
China cap
Ladle
Quart measure
Cup measure
4-gal. heavy stockpot
Butcher's string
2-qt. container
Meat thermometer
Slicer
Scale
Wire whip
Wooden spoon

Oven: 300°F.

Preparation

If using hams which have already been boned, rolled, and tied, adjust the purchase weight to approx. 21 lb. of meat.
Instructor will demonstrate the method of preparation.
Place hams on roasting pan and score with boning knife.
Coat with ground pepper and garlic salt.
Put into 300°F. oven. It is better to cook them slowly and long in order to reduce the shrinkage. Add vegetables during last hour.
Pork must be well done before removing from the oven. Keep in warm place.
Skim the fat off as it accumulates.
Use 3 cups of pork fat, mixed with flour, to form the roux.
Add water or stock to pork drippings to equal 2 gallon.
Stir this hot liquid into the roux to make a gravy. Stir and cook for ½ hour and strain.
Adjust the seasonings and color.
Garnish and serve as shown by the instructor.

Glazed Ham Steak Hawaiian

Quantity 50 3-oz. servings

Ingredients	Equipment
10 lb. smoked rolled ham	Slicing machine
50 pineapple slices	Scale
50 cherries, red	Boning knife
Paprika	Fork or tongs
Granulated sugar	Paprika shaker
1 qt. water	1-qt. measure
	Baking trays
	Full steamtable pans
	Oven: 400°F.

Preparation

Remove the cover from the ham as demonstrated by the teacher.
Using the slicing machine, slice the ham across the grain into 3-oz. pieces.
Lay them best-side-up on a baking tray.
Place one pineapple ring on center of each piece.
Put one cherry in the middle of the pineapple ring.
Sprinkle the top with paprika and sugar.
Hold in a cool place until ready to bake in the oven or broiler.
Bake in oven at 400°F. for 10 minutes or until heated. Do not brown.
Garnish and serve as per instructions.

To cook on the grill, the ham and garnish must be separated. This might be good for individual orders in some places.

Avoid: Overcooking
Carelessness with slicing machine
Burning hands. Use pot holders.

Oven-Baked Sugar-Cured Ham

Quantity 50 3½-oz. servings

Ingredients

30 lb. sugar-cured ham
½ c. prepared mustard
1 lb. brown sugar
20 to 30 whole cloves

Equipment

Roasting pan
Ladle
Serving spoon
Boning knife
Stainless steel bowl
Cup measure
Ham slicer

Oven: 350°F.

Preparation

Follow the directions given by the instructor. It may be necessary to wash the hams if they still have some of the curing products on the outer surface. Wash as demonstrated.

Put the hams in the stockpot and cover with cold water.

Bring to a boil and simmer for approximately 1½ to 2 hours, or until tender. The tongs of a fork should enter and leave the meat with ease. This will indicate that the meat is well done.

Place the ham in a cool place until you are ready to bake it.

To bake the ham, place it in a roasting pan. Remove any extra fat and skin. Leave a collar of skin around the shank end if desirable. Also remove the aitchbone.

Score the ham lightly and decorate with whole cloves.

Coat the entire ham with mustard, using a brush.

Sprinkle the brown sugar over the top of the hams.

Add a half-cup of water to the roasting pan.

Bake until golden brown in a 350°F. oven.

It may be necessary to baste the ham. Check with the instructor.

Slice and serve as directed by the instructor. The instructor will designate a sauce to be prepared to serve with the ham.

Avoid: Overbrowning
Overcooking
Burns
Strains with heavy equipment

Oven-Baked Link Sausage, Fresh or Smoked

Quantity 48 4-oz. portions

Ingredients	Equipment
6 lb. link sausages, 2 oz. each Water	Baking pans Paring knife Tongs Oven: 400°F.

Preparation

Remove paper and strings from links.
Place links into baking pans and add about ½" of water.
Put them into the oven.
When brown on one side, remove from the oven and turn sausages with tongs. Return to the oven for final browning. Cooking time is approximately 40 minutes.
Serve the product as demonstrated by the instructor.

Chicken a la King

Quantity 50 servings

Ingredients

9 to 10 lb. cooked chicken meat, 1" dice
6 green peppers, 1" dice
6 to 8 ozs. pimientoes, 1" dice
2 qts. fresh mushrooms, 1" dice
2 lb. chicken fat or butter
1½ qts. all-purpose flour
3 qts. chicken stock
3 qts. milk, scalded
1 qt. light cream
1 pt. sherry
Salt and pepper to taste
Egg shade may be used to alter the color.

Equipment

Stockpot
2 saucepans
Cold storage trays
Boning knives
4-qt. measures
Double boiler
Rubber scrapers
Wooden spoons
4-gal. container
Deep steamtable pan
Wire whip
French knife

Preparation

Turkey may be used as a substitute for chicken. If so, the name must be changed to indicate the difference.

Boil and simmer four 5-lb. stewing chickens or one 16-lb. turkey.

Remove the meat from the bones, and cool both meat and stock separately.

Dice the green peppers and blanch in salted boiling water. Hold in cool place.

Dice mushrooms and saute in ½ lb. butter until partially cooked.

Make the sauce by preparing a roux with the remainder of butter and flour.

Cook the roux for 5 minutes, then add the hot chicken stock while whipping vigorously. Add the scalded milk and stir until smooth and creamy.

Add the meat and vegetables, and stir with a gentle folding motion. Do not break up the meat and vegetable garnish.

Add the light cream and sherry. Taste the product and adjust the flavor. Season to taste with salt and white pepper.

Egg shade may be used to adjust the color at this time.

Serve as demonstrated by the instructor.

Avoid: Overcooking chickens
Overcooking vegetables
Burning sauce
Excessive yellowing of the sauce. Use a drop of egg shade at a time.

Southern Fried Chicken

Quantity 50 servings

Ingredients

25 – 2½-lb. fryers, chicken
Salt and pepper to taste
Other seasonings may be used
1½ lb. flour
2½ lb. shortening if panfrying

For fast service operation:
Precook chickens in steamer, then dredge in the flour. Frying process will be faster. Excellent when product must be prepared in advance.

Equipment

Deep iron pot for frying
French knife
Small roasting pan
Quart measure
Kitchen fork
Tongs
Trays
Towels

Deep-fat fryer temp.:
325°F. raw
375°F. precooked

Preparation

Clean and wash chickens. Disjoint with French knife and fold wings.
Yield will be 2 wings, 2 breast halves, 2 thighs, and 2 legs from each chicken.
Season as directed and let stand for 1 hour in a cool place.
When ready to cook, spread flour in small roasting pan. Shortening should be melting in deep frying pan.
Dredge the chicken parts in the flour and shake off excess.
Gently lower the parts into the fat. (If not deep-fat fried, the fat should be ½" deep in the pan.)
Cook until brown on one side, then turn with fork or tongs. Allow about 15 to 20 minutes each side to insure proper doneness.
Remove from fat and allow to drain. Check for doneness. If not cooked, place on roasting tray and pop in the oven until done, or return to fat.
The outer cover should be golden brown and crisp.
Serve and garnish as demonstrated by the instructor.

Turkey Croquettes

Quantity 50 – 2½-oz. servings

Ingredients

1½ lb. butter or turkey fat
4 lb. minced turkey
4½ qt. turkey stock, hot
1 qt. milk scalded
1½ lb. flour
3 egg yolks
1½ c. onions, chopped fine
Salt and pepper to taste
Egg wash mixture
Bread crumbs
Flour

Equipment

Saucepan
Wooden paddle
Baking pans
Wax paper
Mixing bowl
Wire whip
French knife
Measuring equipment

Deep-fat fryer temp: 350°F.

Preparation

Saute onions in turkey fat until tender. (Do not brown.)
Add flour to make a roux.
Add hot stock and milk slowly; mix with wooden paddle.
Stir the mixture thoroughly until smooth.
Add minced turkey and bring to boiling point.
Whip egg yolks thoroughly and add to mixture. Stir vigorously while adding yolks.
Season to taste with salt and pepper.
Place in greased baking pans. Cover with wax paper and cool in refrigerator.
Mold in 2½ oz. cones.
Bread in usual manner: (flour, egg wash and bread crumbs).
Fry in deep fat at 350°F.
Serve with egg, cream, tomato, creole or mushroom sauce.

Basic Bread Dressing, (Dry)

Quantity 50 servings

Ingredients

6 lb. bread, at least day-old
6 c. onions, finely chopped
2 qt. celery, diced
1½ lb. bacon fat or butter
3 tbsp. poultry seasoning
2 tbsp. sage
½ c. parsley, chopped
Salt and pepper to taste (approximately
2½ tbsp. salt, 1 tbsp. pepper)

Equipment

Student must determine proper utensils.

Oven: 350°F.

Preparation

Remove crusts and dice the remaining bread.
Toss with dry ingredients. Let stand.
Saute and sweat celery and onions in the fat until tender.
In a large bowl, combine fat, vegetables, and bread mixture.
Toss lightly to blend.
Place in a covered baking pan. Put it into a 350° oven for 1 hour.
Serve as directed.

Precautions: Do not over-salt; remember that there is salt in the fats.
Do not burn vegetables while sauteeing.

Variations: Cooked fruits, vegetables, or meats may be added.

SEAFOOD

Baked Fish Fillets

Quantity 50 – 6-oz. servings

Ingredients

20 lb. fillet of haddock
(or other suitable fish)
¼ c. salt
4 c. milk
2 eggs
2 qt. fine bread crumbs
1½ lb. margarine, butter or suitable fat, melted
Paprika

Equipment

Baking sheet pans
Measuring equipment
Wire whip
Saucepan
Cook's fork
Spatula

Oven: 450° F.

Preparation

Cut fillets on the bias into 6-oz. pieces.
Beat eggs slightly, then add milk and salt; mix.
Dip fish in seasoned milk and place on well-greased sheet pans.
Sprinkle with the remaining fat.
Sprinkle with the bread crumbs and paprika.
Place pans on shelf near the top of the oven.
Bake about 8 to 12 minutes in 450° oven until fish is golden-brown and flakes easily when tested with fork.
Serve immediately, with lemon and/or fish sauce.

Variation: To broil, omit the eggs, milk and salt mixture.

Deep-Fried Fish Fillets

Quantity 48 servings

Ingredients

12 lb. fish fillets (flounder or other
suitable fish fillets or steaks)
4 c. flour
1 qt. milk
4 eggs
2 tsp. salt
2 qt. cracker meal or bread crumbs

Equipment

Student may list necessary utensils.

Deep-fat fryer temp: 350°F.

Preparation

Cut fillets cross-grain into serving-size portions.
Slightly beat eggs; add milk and salt.
Spread flour and crumbs in separate containers.
Dip and pat fillets in flour first. Shake off the excess.
Dip into the egg-milk mixture. Let drain slightly.
Dip and pat in crumbs. Be sure that mixture adheres. There should be no bare spots.
Chill until ready to fry.
Place in deep-fat fryer basket. Lower into 350°F. hot fat.
Cook until tender and golden brown, 3 to 4 minutes.
Drain on clean towels.
Serve as directed.

Fish Cakes

Quantity 50 servings

Ingredients	**Equipment**
5 qt. mashed potatoes 2 c. butter or margarine 10 eggs, beaten 2 tsp. white pepper * 5 qt. cod fish – freshened 3 c. onions, finely chopped 1 c. parsley, finely cut Coating	Student may list utensils. Deep-fat fryer temp: 350°F.

Preparation

Prepare mashed potatoes as directed.
Saute onions in butter until transparent.
Add onions, butter, eggs, pepper, and chopped parsley to potatoes.
Add prepared freshened fish and mix. Season to taste.
Shape into cakes.
Roll in dehydrated instant potato or the regular dip batter.
Dry in deep-fat at 350°F. until golden brown.
Serve as directed.

* Cod fish is often purchased dried and salted. Prepare by breaking, boning, and soaking overnight to remove salt. Soak and drain several times to remove liquid and salt. Remove all liquid before adding to the potato mixture.

Seafood Newburg

Quantity 25 – 7-oz. servings

Ingredients

2 lb. lobster meat, cooked
3 lb. shrimp, raw
2 lb. scallops, raw
3 qt. cream sauce, heavy
½ oz. paprika
1 c. sherry, dry
1 tsp. monosodium glutamate
1 c. butter
1½ tbsp. lemon juice

Equipment

Student may list utensils

Preparation

Prepare thick cream sauce and keep warm.
Peel and devein shrimp. Rinse until clean.
Clean and cut scallops to size desired.
Melt butter in brazier. Add paprika, but do not allow to brown.
Add shrimp and scallops. Put lid on and simmer for 5 minutes.
Add cooked lobster meat and continue cooking for 5 minutes more to allow the lobster to heat.
Add the liquid and meat to cream sauce. Mix with a paddle, being careful not to break the meat.
Bring to the boiling point, add the sherry and other ingredients.
Season to taste with salt and pepper.
Serve as directed.

Variations: Substitute any variety of suitable seafoods for this concoction.

Shrimp Creole

Quantity 30 – 6-oz. servings

Ingredients

1 gal. creole sauce
10 lb. shrimp, raw, peeled and deveined
1 qt. sherry, dry
1½ lb. butter

Equipment

Saute pan with lid
Wooden spoon
Measuring equipment
Paring knife
Bowls

Preparation

Shrimp should be held in cold water with lemon added until cooked.
Prepare creole sauce as described on page 124.
Melt butter in saute pan. Lightly brown. Add shrimp.
Sprinkle with sherry. Be careful that sherry does not flame.
Cover and simmer for 5 minutes.
Add creole sauce and bring to a boil. Reduce heat and serve as directed.
Shrimp Creole is usually served on a bed of rice.

HOT SANDWICHES

Grilled Ham and American Cheese Sandwich

Quantity 25 servings

Ingredients	Equipment
50 slices of white bread	Sandwich spreader
50 slices American cheese, ¾ oz. each	Slicing machine
25 slices ham, 1 oz. each	Knife, sandwich
Whipped or melted butter	Cutting board
	Spatula
	Grill: 375°F.

Preparation

Preheat the grill.
Slice the meat and cheese as demonstrated by the instructor.
Put the bread on the cutting board.
Place one slice of cheese, then one piece of ham, then another piece of cheese on the bread.
Put on the top slice of bread.
Coat with whipped butter.
Place buttered side on the grill.
Brown completely on that side. Spread the top with butter.
Turn with spatula.
Cook until golden brown.
Remove from the grill to the cutting board.
Cut as instructed and serve.

Grilled Frankfurter on Toasted Roll

Quantity ____________

Ingredients	Equipment
Hot dogs, scored or sliced	Grill or broiler
Rolls, buttered	Knife
Oil	Fork or tongs
Mustard	Sandwich spreader
Relish, sweet	Relish bowls and servers
Catsup	Tray for equipment and ingredients

Preparation

Prepare as demonstrated by the teacher.

Prepare the grill by cleaning it. Always keep the grill clean for better, faster cooking, and to avoid a burned taste or an unappetizing appearance.

Lightly oil the grill.

Place the sliced or scored hot dogs on the grill with temperature set at approximately 350° F.

Try to turn the hot dogs just once, unless browning too fast. Cook until thoroughly heated.

When the frankfurter starts to brown on the first side, place the buttered roll on the heated grill next to the hot dog and turn the dog.

Brown and serve with bowls of relish.

Serve as demonstrated by the instructor.

Barbecue Burger

Quantity 75 – 6-oz. portions

Ingredients

10 lb. ground beef, chuck
10 onions, large, shredded
3 qt. celery, ½" dice
1 #10 can tomatoes
2 qt. mushrooms, sliced
½ c. chili powder
1 c. sweet relish
½ c. sugar
3 c. cornstarch
½ c. soy sauce
¼ c. worcestershire sauce
3 c. catsup
Salt and pepper to taste
¼ c. garlic salt
1 lb. butter
2 qt. water

Toasted buns

Equipment

Heavy 6-gal. stockpot
French knife
6-quart bowl
China cap
Measuring cups and spoons
Wooden paddle
Quart measure
Sheet pans
Gallon measure
Cutting board
Ladle
Wooden spoons

Oven: 400° F.

Preparation

Follow the procedures given by the instructor.
Wash, clean, and cut vegetables as per instructions.
Prepare the sauce first by sauteing the celery and onions in ½ lb. butter.
Crush the tomatoes and add to the other vegetables when they are soft.
Simmer for 1 hour, taking care not to scorch or burn.
Crumble beef onto sheet pans and brown in the oven, after sprinkling with garlic salt.
When tomatoes and beef are both cooked, combine in the heavy stockpot.
Simmer for 15 minutes and add cornstarch that has been blended with the remaining ingredients. Stir continuously. Bring to a boil.
Stir the boiling pot for 2 minutes.
Adjust seasonings. Thin with water or stock if necessary.
Serve as instructed.
Serve 6 ounces over toasted bun.

PASTA

Macaroni and Cheese

Quantity 60 servings

Ingredients	Equipment
5 lb. macaroni or spaghetti	Colander
4 gal. boiling water	6-gal. pot
6 tbsp. salt	Wooden paddle
4 qt. cream sauce	Measuring tools
3 lb. grated sharp cheese	Grater
	Rubber scraper
	Oven: 350°F.

Preparation

Break spaghetti into small pieces. Cook until tender in boiling water and salt. Stir briskly with wooden spoon to prevent clumping and sticking to the bottom of the pan.

Preheat oven to 350°.

Drain cooked macaroni and rinse with hot water.

Make cream sauce and add cheese, stirring till melted.

Add macaroni to creamy cheese sauce and adjust the seasoning.

Put into the baking pans and place in the oven for 30 minutes, or until boiling in center and browned on the top.

Optional: Top may be sprinkled with grated cheese or buttered crumbs before baking.

Variations: Tomato-Cheese Macaroni – Reduce the cream sauce by one-half and add two cans condensed tomato soup before baking.

Ham and Macaroni Cheese casserole – add diced ham to regular recipe.

American Chop Suey

(Tomato Sauce, Ground Beef, and Macaroni)

Quantity 50 – 6-oz. servings

Ingredients

5 lb. ground beef, chuck
½ gal. macaroni
2½ qt. tomatoes, crushed
1 qt. tomato puree
1½ qt. onions, thinly sliced
1½ qt. celery, paysanne cut
¼ c. oregano and basil
3 tbsp. garlic salt
¼ c. worcestershire sauce
1/3 c. sugar
1 c. grated parmesan cheese
3 c. beef stock
Salt and pepper to taste
1 c. fat to saute vegetables

Equipment

Gallon and quart measures
Cutting board
Saute pan
Wooden spoon and paddles
Rubber scrapers
Spoon measures
Cup measures
24-qt. heavy stockpot
Sheet pans
Saucepan
Steamtable pan

Oven: 400°F.

Preparation

Start the tomato sauce first by straining off the tomato juice into the stockpot. Crush the tomatoes and add with tomato puree to the tomato juice. Simmer for at least 1 hour. Cook macaroni in salted boiling water and hold.

Saute the sliced onions and celery until the onions are transparent and the celery is crisp and bright in color. Add these to sauce.

Crumble the ground beef onto sheet pans and sprinkle with the garlic salt. Put it into the oven and brown.

Stir the browned meat into the sauce along with the cooked macaroni and all other ingredients.

Let simmer for 5 minutes. Keep in warm place.

Serve as directed by the instructor.

Avoid: Undercooking the sauce
Undercooking the macaroni
Overcooking the vegetables
Burning the sauce
Lumping macaroni

RICE

Herb Rice

Quantity 50 – ¾ cup servings

Ingredients

5 lb. rice, uncooked
Boiling water
2 tbsp. herb rice
1½ tbsp. rosemary
1½ tbsp. marjoram
1½ tbsp thyme
5 oz. chicken soup base
5 oz. butter or margarine

Equipment

Scale
Measuring spoon
Saucepan

Preparation

To boiling water, add rice, seasonings, soup base, and butter.
Return to a boil, stir and cover tightly.
Remove from heat for 20 minutes.
Serve with #6 scoop.

Pork Fried Rice

Quantity 30 – 3oz. servings

Ingredients

1 lb. bacon
2 c. onions, finely chopped
3 lb. cooked rice, cooled
2 tsp. oregano
1 tsp. garlic powder
2 qt. cooked meat, ½" dice
½ c. soy sauce
¼ c. sugar
6 eggs, slightly beaten
1 c. scallions, chopped
2 tbsp. monosodium glutamate

Equipment

3 gallon heavy brazier
French knife
Flat spatula
Cutting board
Bowls
Measuring equipment

Preparation

Thinly slice bacon and fry in hot pot.
Add onions and rice; continue frying. Scrape pan as necessary to prevent sticking.
Stir in all other ingredients, except the eggs and scallions.
Fry until all ingredients are heated uniformly.
Make a well in the center. Scramble the eggs there.
When the eggs are cooked, scatter them throughout the mixture.
Serve with the scallions on the top as a garnish.

Variations: Ham may be used in place of bacon. Fry ham in 1 cup of peanut oil. Shrimp, lobster, beef, and other types of meats may be substituted.

VEGETABLES

Buttered Brussels Sprouts

Quantity 25 – 4oz. servings

Ingredients

6 lb. brussels sprouts (fresh)
2 tbsp. salt
Boiling water to cover
8 oz. butter
Salt and pepper to taste

Equipment

Colander
Saucepan

Preparation

Remove wilted and discolored outer leaves and trim stems of brussels sprouts.
Soak in cold water 30 minutes and drain.
Place in saucepan, cover with boiling water, add salt, and simmer till tender.
Drain off part of the liquid and add the butter.
Season with salt and pepper and serve.

Braised Zucchini Squash

Quantity 25 – 3-oz. servings

Ingredients

6 lb. zucchini squash
2 tsp. minced garlic
½ c. salad oil
1 pt. water
½ #10 can whole tomatoes
Salt and pepper to taste

Equipment

Scale
Cutting board
French knife
Cup measure
Measuring spoons
Saucepan

Preparation

Cut ends off zucchini and slice into ½" discs.
Heat the salad oil in a saucepan.
Add garlic and saute until slightly brown.
Add squash and water and simmer until squash in almost tender.
Add the tomatoes; continue to simmer until the squash is tender.
Season with salt and pepper and serve.

Country-Style Stewed Tomatoes

Quantity 50 – 4-oz. servings

Ingredients	Equipment
2 #10 cans whole peeled tomatoes	French knife
2 lb. chopped onions	Cutting board
4 oz. sugar	Saucepan
3 tbsp. salt	Measuring spoons
½ tsp. pepper	Measuring cup
6 oz. butter	
2 qt. cubed day-old bread	

Preparation

Combine tomatoes, onions, sugar, salt, pepper, and bread in saucepan.
Heat to boiling point, reduce heat, and simmer ten minutes. Add butter and serve hot.

Carrots Vichy

Quantity 50 – 3-oz. servings

Ingredients	Equipment
12 lb. carrots, A.P. (as purchased) 6 oz. butter Salt to taste Parsley (for garnish)	Vegetable peeler Saucepan

Preparation

Peel carrots and slice diagonally, approximately, 1/8" thick.
Cover with water and parboil.
Drain well.
Complete cooking by sauteing in butter.
Serve topped with freshly-chopped parsley.

Sauteed Green Beans Almondine

Quantity 25 – 3-oz. servings

Ingredients	Equipment
5 lb. green beans, fresh or frozen	Saucepan
4 oz. butter	Saute pan
½ c. sliced blanched almonds	Wooden spatula
Salt and pepper to taste	Sheet pan

Preparation

Parboil green beans, drain well
Brown almonds on sheet pan in oven (350° F.). Set aside.
Melt butter in saute pan and cook beans until tender.
Garnish with almonds just before serving.

Timbales of Spinach

Quantity 50 servings

Ingredients	Equipment
1 lb. butter, melted	Saucepan, large
12 oz. bread crumbs	Mixing bowl
2½ qt. milk	Wire whip
3 qt. finely chopped cooked spinach	Wooden spoon
32 eggs, beaten slightly	Measuring spoon
1½ tbsp. salt	Quart measure
1 tsp. white pepper	Baking pan
	Custard cups (50)
	Oven: 350° F.

Preparation

Melt butter.
Add bread crumbs and milk. Cook 5 minutes, stirring constantly.
Add spinach, eggs, salt, and white pepper.
Pour into 50 custard cups.
Bake in 350° oven 30 minutes or until firm.

Corn Fritters

Quantity 50 – 2-fritter servings

Ingredients	Equipment
4 lb. flour , all-purpose	Mixing bowl
1 tbsp. salt	Sifter
4 oz. baking powder	Measuring cup
2 oz. sugar	Measuring spoons
12 eggs, beaten	Beater
2 qt. milk	Saucepan
6 oz. fat, melted	Skimmer
2 qt. corn, drained	Deep-fat fryer
	Ladle
	Oven: 375° F.

Preparation

Sift together flour, salt, baking powder, and sugar.
Mix together remaining ingredients and blend with dry ingredients.
Measure with 2-oz. ladle and fry in deep fat approximately 2–5 minutes at 375°F.

Swiss Potatoes

Quantity 25 – 4-oz. servings

Ingredients

12 large Idaho potatoes
12 oz. butter
Salt and pepper to taste

Equipment

Large skillet
Medium grater
Large bain marie
Vegetable peeler
Spatula

Preparation

Peel potatoes and grate them into cold water to keep them from turning brown.
Drain potatoes thoroughly.
Melt butter in skillet, add potatoes, and cover.
Cook, without stirring, over low heat until potatoes are tender and a brown crust has formed on bottom.
Add salt and pepper and turn over with spatula for service.

Duchess Potatoes

Quantity 50 – 5-oz. servings

Ingredients

12 lb. potatoes, E.P. (edible portion) cooked and mashed
2 – 2½ qt. milk, hot
8 oz. butter or margarine
3 tbsp. salt
5 eggs, beaten

Equipment

Stockpot
Saucepan
Mixing bowl
Baking pan
Measuring cup
Measuring spoon
Wire whip
Serving spoon

Oven: 350°F.

Preparation

Cook and mash potatoes.
Add remaining ingredients.
Spoon into lightly-greased baking pan.
Bake in 350° oven until set and lightly browned.

Boulangere Potatoes

Quantity 10 servings

Ingredients

8 to 10 potatoes
2 onions, medium, sliced thin
Salt and pepper to taste
2 oz. butter
1¼ c. water, boiling
1 tsp. parsley, chopped

Equipment

Measuring spoons
Measuring cup
Saucepan
Shallow heatproof platter

Oven: 400° F.

Preparation

Peel and slice potatoes.
Peel and slice onions very thin.
Mix potatoes and onions; season with salt, pepper, and parsley.
Spread about ½ inch deep in shallow heatproof platter.
Coat the top with butter and add boiling water.
Bake in 400° oven for 30 to 40 minutes, or until potatoes are soft and brown and until water is cooked away.

Rissole Potatoes or Oven Browned Potatoes

Quantity as desired

Ingredients	Equipment
Potatoes, peeled	Roasting pan
Shortening	Tongs
Paprika	
Salt and pepper to taste	
	Oven: 375°F.

Preparation

Place shortening in a roasting pan and heat in 375° oven until hot.
Add potatoes. (They should be uniform in size.)
Sprinkle with paprika and season with salt and pepper.
Return to oven and roast, turning occasionally, until potatoes are golden brown and tender.

New England-Style Oven-Baked Beans

Quantity 50 5-oz. servings

Ingredients

5 lb. navy beans
1½ gal. boiling water
4 oz. salt
6 oz. brown sugar
1 tsp. dry mustard
1 tbsp. vinegar
8 oz. molasses
1 lb. salt pork, cubed

Equipment

Stockpot
Measuring cup
Gallon measure
Measuring spoon
Cutting board
Knife
Baking pan

Oven: 350° F.

Preparation

Wash beans.
Add boiling water and let stand 1 hour or longer.
Cook in same water until tender (about 1 hour).
Add remaining ingredients and mix.
Pour into baking pan.
Bake 5 to 6 hours at 350° F.

Cole Slaw

Quantity 50 – 1/3 cup servings

Ingredients

7 lb. (E.P.) cabbage, shredded
2 c. mayonnaise
2 c. sweet or sour cream
½ c. vinegar
½ c. sugar
1½ tbsp. salt

Equipment

Mixing bowl
French knife
Cutting board
Measuring cup
Measuring spoons
Wooden spoon

Preparation

Shred cabbage.
Add remaining ingredients.
Mix thoroughly.
Serve with #12 scoop.

PROGRESS TEST – UNIT I

1. A menu cycle, like a wheel, begins and ends at the same place.
True_____ False_____

2. Menu cycles allow you to offer a greater variety of foods. True_____ False_____

3. Menu cycles are important to a person who is sick and has a restricted diet, because he can have a greater choice of foods. True_____ False_____

4. A menu cycle by itself does not insure balanced meals. True_____ False_____

5. Planning a menu must take into consideration:

   a. food available.
   b. needs and desires of customers.
   c. nutritional factors
   d. all of the above
   e. none of the above _______

6. Studies show that different types of people desire different types of food.
True_____ False_____

7. Today teenagers are the largest group of customers that you can cater to.
True_____ False_____

8. An armed services survey indicated that mashed turnips is one of the most popular foods. True_____ False_____

9. Menu cycles are important in controlling food costs. True_____ False____

10. A menu is nutritionally balanced if it offers:

   a. color
   b. shape
   c. aroma (smell)
   d. all of the above
   e. none of the above _______

PROGRESS TEST - UNIT II

1. The suggested menu cycles at the beginning of this unit are best used in institutional feeding. True _____ False _____

2. Menu cycles must provide what you want your customers to have. True _____ False _____

3. Customer demand has caused the limited menu type operations, such as hamburger houses, to expand the variety of foods offered. True _____ False _____

4. Sometimes you may need to make changes in your menus due to unexpected factors or events. True _____ False _____

5. You can run your food business just as well without menu cycles as you can with menu cycles. True _____ False _____

PROGRESS TEST – UNIT III

1. Menu cycles should be used to present nutritionally balanced meal selections.
True ______ False ______

2. Not eating properly can affect how you feel emotionally.
True ______ False ______

3. The amount of energy given off by food consumed in our bodies is measured in units called ______________

4. Foods high in carbohydrates (sugars and starches) are generally high in calories.
True ______ False ______

5. Our health and life expectancy are directly related to our diets.
True ______ False ______

6. List the five classes of nutrients necessary to maintain life

a. ________________ d. ________________
b. ________________ e. ________________
c. ________________

7. One-quarter of the total calories that Americans eat come from fats.
True ______ False ______

8. The water-soluble vitamins are A, D, E, and K. True ______ False ______

9. Proteins are a part of: ___________

a. all body cells
b. body fluids
c. hormones
d. hair
e. all of the above
f. none of the above

10. Most foods contain good amounts of calcium. True ______ False ______

11. Vitamin A needs to be taken in the full amount each day because it cannot be stored in the body.
True ______ False ______

12. The chief function of vitamin C is to prevent the common cold.
True ______ False ______

13. The body requires that each meal contain some protein from animal sources.
True ______ False ______

14. Vitamin D is more necessary for babies and children than for adults.
True______ False______

15. Based upon the information in this unit, it is clear that everyone should take a vitamin pill every day. True______ False______

16. Here is a list of foods. In front of each write *G* if you believe that it contributes a *good* amount of ***valuable nutrients*** to the body; *FG* if you believe that it contributes a *fair* amount, and *P* if you believe it to be a *poor* source of nutrients. Use a table of food values to help you.

a. ____ dry beans
b. ____ liver
c. ____ honey
d. ____ skim milk
e. ____ cucumbers
f. ____ cornstarch pudding
g. ____ pork
h. ____ layer cake
i. ____ cottage cheese
j. ____ fruit jam
k ____ collard greens
l. ____ sardines
m.____ applesauce
n. ____ green pepper

PROGRESS TEST – UNIT IV

1. Herbs and spices were originally used to hide or cover up undesirable flavors in cooked foods. True_______ False_______

2. The taste of superior food products is improved by adding: ________

   a. vinegar
   b. celery leaves
   c. spices and herbs
   d. bread and butter

3. When purchasing foods, you must buy ________

   a. to satisfy preplanned menus.
   b. the quality for your specific preparation needs.
   c. the needed quantity.
   d. all of the above.

4. When ordering food leave no room for guesswork or misunderstanding. True _______ False_______

5. You have to order onions for the onion-rings which are on the menu. Using the list below, specify what your needs are.

   a. the name of the product __________________
   b. the quantity or weight __________________
   c. the type __________________
   d. the size or count __________________
   e. the color __________________

6. Most food items are purchased fresh from the market. True _______ False_______

7. Foods should be handled in such a way as to prevent: _______

   a. bacteria from multiplying fast
   b. rats from getting at them
   c. insect damage
   d. all of the above

8. Food items may be preserved by _______

   a. canning
   b. freezing
   c. pickling
   d. all of the above methods

9. To cut down on spoilage, the oldest foods should be used first. This is called rotation. True _______ False_______

10. It is a good rule to store food on the floor so that you don't have to reach up for it. True _______ False_______

11. A freezer is a good storage place for: _______

    a. freeze-dried foods
    b. frozen foods
    c. canned foods
    d. two of the above

12. Frozen foods may get freezer burn if not properly wrapped while in storage.
True______ False______

13. Draw lines to match the desirable storage temperatures with each food item.

a. Meats
b. Most vegetables
c. Dairy Products
d. Eggs

29°–34°F.
31°–34°F.
40°–45°F.
31°–34°F.

14. Refrigerators and freezers should be checked for proper operation: ______

a. every 15 minutes
b. twice, day and evening
c. upon entering, before leaving, and as often as you use it
d. every other day

15. Name the primary methods of cooking.

a. ______________________
b. ______________________

16. Circle the dry-heat cooking methods in this list:

a. Baking
b. Boiling
c. Grilling
d. Braising
e. Sauteing
f. Broiling

17. Name several foods that may be served without cooking.

a. ______________________
b. ______________________
c. ______________________
d. ______________________

18. Foods which are sauteed are cooked __________

a. in enough fat to cover them
b. in a pressure cooker
c. in the least amount of fat
d. in the least amount of water

PROGRESS TEST – UNIT V

1. When purchasing fruits and vegetables, it is important to know the types and varieties and their uses. True _______ False_______

2. Vegetables and fruits should be washed with _______

   a. warm water
   b. soap and water
   c. cool water
   d. vinegar and water

3. Fruits should be washed and drained before storing. True _______ False_______

4. Bananas, avocados, pineapples, and melons should not be stored in the refrigerator. They store well at which of the following temperatures?

   a. 30°F.
   b. 60°F.
   c. 45°F.
   d. 80°F.

5. When leafy and stem type vegetables have become limp or wilted, they can be crisped or refreshed by _______

   a. placing them in hot water.
   b. placing them in cold water.
   c. cooking them.
   d. tossing them in a bowl.

6. Most vegetables should be cooked slowly in a large amount of boiling water. True _______ False_______

7. Baking vegetables destroys their food value quickly. True _______ False_______

8. Steaming is the best way to preserve the color of green vegetables True _______ False_______

9. Fruits and vegetables should _______

   a. be a part of our daily meals.
   b. be washed in cool, clean water.
   c. be properly stored.
   d. all of the above

10. List one vegetable for each type:

    1. Root _______________
    2. Tuber_______________
    3. Bulb _______________
    4. Stem _______________
    5. Flower _______________
    6. Fruit _______________
    7. Seed _______________
    8. Leaf _______________

PROGRESS TEST – UNIT VI

1. What are the four basic types of meats?

a. B. ________ b. V________ c. L________ d. P________

2. In the same order, what are the names of the animals from which these meats are taken?

a. ________ b. ________ c. ________ d. ________

3. Broiling is a dry-heat method of cooking. True ________ False________

4. Braising is a moist-heat method of cookery in which the meat is only partly covered with liquid. True ________ False________

5. The doneness of roasted meats should be tested with ________

a. the fingers
b. tasting
c. a thermometer
d. a meat thermometer

6. You should be sure to leave the roast in the oven until the meat thermometer shows the exact temperature you want to reach. True ________ False________

7. After cooking, a roast should be allowed to set and become firm ________

a. for about 15 minutes before carving.
b. for about 30 minutes before carving.
c. for about 60 seconds before carving.
d. by putting it under the broiler.

8. Shrinkage takes place when cooking meats. Is shrinkage greater with high or low temperatures? ______________

9. High cooking temperatures are recommended for the broiling of tender, thin cuts of meat. True ________ False________

10. Boiling and stewing of meats is continued until meat is ________

a. well done
b. medium
c. rare.
d. tough

PROGRESS TEST – UNIT VII

1. Poultry is any type of bird raised for eggs or meat. True_______ False_______

2. Soak chickens in water when you clean them. True_______ False_______

3. The age of a bird determines how it should be cooked. True_______ False_______

4. The dry methods of cooking poultry are __________

   a. broiling
   b. roasting
   c. frying
   d. all of the above

5. When would you cut a turkey in half before cooking it? __________

   a. When it's wet in the middle.
   b. When your oven is too small for a large bird.
   c. When you want to improve its appearance.
   d. When you are going to stuff it.

6. Braising is a moist-heat method of cookery. Which of these types of meats are most often cooked by this method? __________

   a. Small turkeys
   b. All less tender cuts of meat and poultry
   c. All tender cuts of meat and poultry
   d. Cornish hens

7. Stewing fowl are young, tender birds and don't need much cooking time.
   True_______ False_______

8. Turkeys to be used cut up in prepared entrees are often boiled.
   True_______ False_______

9. Ducks and geese are both fat, but ducks are fatter than geese.
   True_______ False_______

10. A wise manager will try to buy poultry several days ahead of time.
    True_______ False_______

PROGRESS TEST – UNIT VIII

1. Freshwater trout is classified as a seafood. True _______ False_______

2. Seafood should be thawed __________

   a. at room temperature
   b. in the refrigerator
   c. in the freezer
   d. by using any of the above

3. Seafood should be cooked to the well-done stage so it will not fall apart.
   True _______ False_______

4. Why should seafood be broiled on special trays?
   ____

5. So-called lobster tails are actually crayfish tails. True _______ False_______

6. Court bouillon is a rich fish stock and is made from _______

   a. fish bones and spices.
   b. carrots celery, and onions as base vegetables.
   c. simmering water, with a little white wine or vinegar added if desired.
   d. all of the above.

7. Name two mollusks.
   ____
   ____

8. Name two types of crustaceans
   ____
   ____

9. Name two common fish
   ____
   ____

10. Both dry and moist methods of cooking are suitable for seafood.
    True _______ False_______

PROGRESS TEST – UNIT IX

1. The two main parts of the egg are _______

   a. the shell and the yolk
   b. the albumen and the yolk
   c. the shell and the albumen
   d. two cord-like membranes

2. If an egg floats when put in water, it is not fresh. True _______ False _______

3. Which term best describes what happens to an egg during the cooking process? _____

   a. Emulsification
   b. Clarification
   c. Coagulation
   d. Evaporation

4. When beating egg whites, add just a little yolk to insure high stiff peaks.
   True _______ False _______

5. It is always best to buy large grade AA eggs. True _______ False _______
   Explain your answer ____
   ____

6. White eggs have a higher quality than brown. True _______ False _______

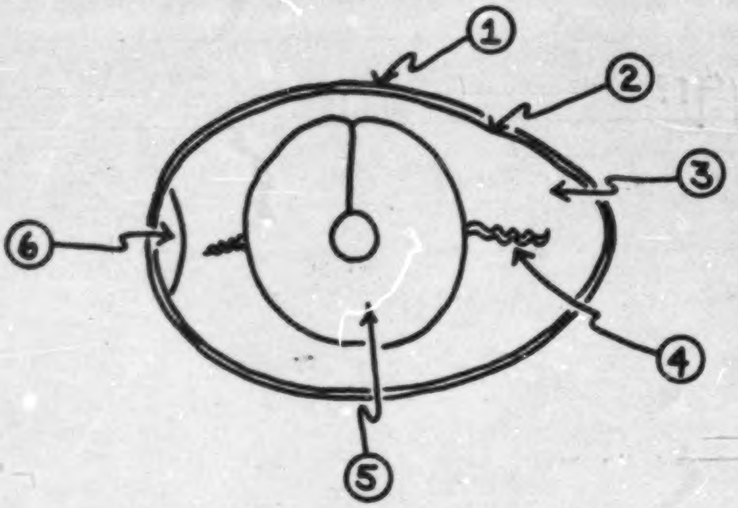
7. Fresh eggs may be held in cold storage for months at 29° F.
   True _______ False _______

8. Commercially, frozen eggs are used more than fresh eggs because _______

   a. they are easier to handle and store
   b. they are more uniform and less wasteful.
   c. they are higher in quality and less likely to fluctuate in price.
   d. all of the above.

9. Too-hard or too-long boiling of hard-cooked eggs causes a _________ color to develop around the yolk.

10. Identify each part of the egg.



1. ____________________
2. ____________________
3. ____________________
4. ____________________
5. ____________________
6. ____________________

11. Describe how eggs may be used as the following agents:

a. Thickening ____

b. Leavening ____

c. Stabilizing ____

d. Binding ____

e. Clarifying ____

f. Coating ____

g. Garnishing ____

PROGRESS TEST – UNIT X

1. Rice and pasta store best _______

a. if kept in a warm, dry place.
b. if kept in a cool, dry place.
c. if kept in a cool, moist place.
d. if kept in a warm, moist place.

2. Brown rice has less food value than the other forms of rice.
True _______ False_______

3. Wild rice, also known as "duck rice", is not a true rice.
True _______ False_______

4. Rice may be cooked in _______

a. water
b. milk
c. chicken stock
d. all of the above

5. When cooking rice use twice as much ___________ as rice.

6. Rice and pasta serve well as suitable substitutes for potatoes in our diet.
True _______ False_______

7. The time required to boil spaghetti is about _______

a. one hour
b. ½ hour
c. 10 to 20 minutes
d. 2 to 5 minutes

8. Types of macaroni are named by mold or shape. True _______ False_______

9. _______-grain rice is used mainly for its attractiveness.

10. The chief difference between noodles and macaroni is the shape of the strands.
True _______ False_______

PROGRESS TEST – UNIT XI

1. What are the five basic, or mother, sauces? Give their names and colors.

	Names	Colors
1.	________	________
2.	________	________
3.	________	________
4.	________	________
5.	________	________

2. The sauce cook in a restaurant is next in rank below the salad chef.
True ______ False ______

3. A liquid or stock combined with a thickening agent is the fundamental ingredient for a sauce. True ______ False ______

4. You can caramelize in saucemaking by adding packaged caramel candies.
True ______ False ______

5. When making stock, use ______

   a. cold water and simmer
   b. hot water and boil
   c. hot water and simmer
   d. cold water and refrigerate

6. Name the two most-used thickening agents.

____

____

7. In making sauces, the starch is mixed with hot liquid or cold fat.
True ______ False ______

8. A whitewash is a combination of flour and fat. True ______ False ______

9. How many cups of flour are needed to make one gallon of medium sauce?
______ cup(s)

10. How many cups of cornstarch are needed to make one gallon of medium sauce?
______ cup(s)

PROGRESS TEST – UNIT XII

1. It is necessary to keep records for only those parts of the business that you do not see every day. True_______ False_______

2. The government has the right to check your books to make sure that the proper amount of taxes has been paid. True_______ False_______

3. Employees generally receive more than their hourly wages, because they also receive fringe benefits. True_______ False_______

4. Gross income is always larger than net profit. True_______ False_______

5. When setting the price for a meal, in addition to the cost of the food you should take into account _______

   a. labor costs
   b. cooking and serving losses
   c. overhead
   d. all of the above
   e none of the above

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